[H.A.S.C. No. 113–107]

HEARING

ON

NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEAR 2015

AND

OVERSIGHT OF PREVIOUSLY AUTHORIZED PROGRAMS

BEFORE THE

COMMITTEE ON ARMED SERVICES
HOUSE OF REPRESENTATIVES
ONE HUNDRED THIRTEENTH CONGRESS

SECOND SESSION

SUBCOMMITTEE ON STRATEGIC FORCES HEARING

ON

FISCAL YEAR 2015 BUDGET REQUEST FOR ATOMIC ENERGY DEFENSE ACTIVITIES AND NUCLEAR FORCES PROGRAMS

HEARING HELD
APRIL 8, 2014

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FISCAL YEAR 2015 BUDGET REQUEST FOR ATOMIC ENERGY DEFENSE ACTIVITIES AND NUCLEAR FORCES PROGRAMS

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
SUBCOMMITTEE ON STRATEGIC FORCES,
Washington, DC, Tuesday, April 8, 2014.

The subcommittee met, pursuant to call, at 3:30 p.m., in room 2118, Rayburn House Office Building, Hon. Mike Rogers (chairman of the subcommittee) presiding.

OPENING STATEMENT OF HON. MIKE ROGERS, A REPRESENTATIVE FROM ALABAMA, CHAIRMAN, SUBCOMMITTEE ON STRATEGIC FORCES

Mr. ROGERS. Good afternoon. This subcommittee hearing will come to order. I want to welcome our hearing participants on the President's fiscal year 2015 budget request for atomic energy defense activities and nuclear forces programs.

I want to thank our witnesses for being here today. We are very proud to have these witnesses here with us today, and we have a lot of ground to cover in this hearing.

And our distinguished witnesses are the Honorable Andrew Weber, Assistant Secretary of Defense for Nuclear, Chemical and Biological Defense Programs at the U.S. Department of Defense; Ms. Elaine Bunn, Deputy Assistant Secretary of Defense for Nuclear and Missile Defense Policy at the U.S. Department of Defense; Vice Admiral Terry Benedict, Director of Strategic Systems Programs of the U.S. Navy; Major General Garrett Harencak, Assistant Chief of Staff for Strategic Deterrence and Nuclear Integration; Bruce Held, Acting Administrator and Acting Under Secretary for Nuclear Security, at the National Nuclear Security Administration [NNSA]; Admiral John Richardson—happy birthday to you—Director of Naval Nuclear Propulsion Program, U.S. Navy and National Nuclear Security Administration; Mr. David Huizenga, Senior Advisor for Environmental Management, U.S. Department of Energy [DOE]; and Mr. Peter Winokur, Chairman, Defense Nuclear Facility Safety Board. That is a mouthful.

I appreciate all of you taking time to be here at this hearing. As always, we appreciate your contributions that each and every one of you make.

Before I hand the floor over to the ranking member, let me highlight just a few issues to which we are paying close attention. First, today, 2 years late, we have finally received the administration's proposed nuclear force structure under the New START [Strategic Arms Reduction Treaty]. I am glad to see that the President made

the right decision, the decision that was obvious to us 2 years ago. We will take a hard look at this in the coming weeks, and we will discuss it today, I am sure.

Second, the governance and management of the DOE and NNSA. We had a hearing 2 weeks ago to receive the interim report of the congressional advisory panel on this topic. It was sobering, and it confirmed what this subcommittee has been saying for many years. We had 13 members show up at that hearing. I hope that shows just how serious we are taking this. We are as serious as a heart attack, and we want to make sure that we see some bold actions at the NNSA.

Third, promised capabilities and programs keep slipping despite significant budget increases. Fulfillment of the requirement for this responsive nuclear infrastructure keeps being pushed into the distant future, and we have wasted billions of dollars with false starts. The follow-on to the air-launched cruise missile is pushed and may put both the nuclear security enterprise and the Strategic Command in a real bind. The interoperable warhead, a key pillar of the administration's future stockpile strategy, has been pushed out of sight on the calendar.

Fourth, integrity and leadership problems in our nuclear forces.

General Harencak and Admiral Richardson, we appreciate the updates you and your services have been providing us.

The services need to get on top of this. It is particular—in particular, the Air Force needs to take a long, hard look at itself and how it is leading and managing its nuclear forces. Recent actions give us hope, but they must only be a start.

Let me end on a bright note. The B61 life extension program, which many on this subcommittee and many at the witness table have fought to get back on track, is succeeding. NNSA and the Air Force are on schedule, on budget, and delivering for the Nation.

Good work. This is an important first step for rebuilding the trust and confidence of the Congress, the American people, and our allies.

Thanks again to our witnesses. I look forward to our discussion. And with that, let me recognize the ranking member, my friend and colleague from Tennessee, Mr. Cooper.

[The prepared statement of Mr. Rogers can be found in the Appendix on page 39.]

Mr. COOPER. I thank the chairman, my friend. I have no opening statement. I look forward to the testimony of the witnesses.

Mr. ROGERS. Great. I appreciate that.

And we will now—I think that the witnesses, as you can see, we have got a large group of witnesses. Ask you to synopsize your opening statement to 3 minutes so we can try to get through the panel and get to some healthy questions.

Mr. Weber, you are recognized first.

STATEMENT OF HON. ANDREW C. WEBER, ASSISTANT SECRETARY OF DEFENSE FOR NUCLEAR, CHEMICAL, AND BIOLOGICAL DEFENSE PROGRAMS, U.S. DEPARTMENT OF DEFENSE

Secretary WEBER. Thank you. Chairman Rogers, Ranking Member Cooper, and distinguished members of this subcommittee,

thank you for giving us the opportunity to discuss the 2015 budget request for Department of Defense nuclear forces programs. It is an honor to come before you with my Department of Defense and Department of Energy colleagues to testify on our efforts to modernize and sustain a safe, secure, and effective nuclear weapons stockpile.

Guided by the Nuclear Weapons Council, our Departments have made substantial progress over the last year. However, stark budget realities continue to stress our efforts to update an aging stockpile and infrastructure.

In January, I accompanied Secretary Hagel on his visits to Kirtland and F.E. Warren Air Force Bases and Sandia National Laboratories. We had the opportunity to speak with and learn from our extraordinary airmen and laboratory personnel, whose dedication and professionalism are an inspiration. While there, Secretary Hagel emphasized to them that we are going to invest in the modernization required to maintain an effective deterrent.

Our most vital modernization efforts include the life extension programs for the W76–1 submarine-launched ballistic missile [SLBM] warhead and the B61–12 gravity bomb. The B61 life extension program [LEP], which the chairman referred to as a bright note, is currently undergoing development engineering and prototypes are being assembled for early testing. Due to sequestration impacts, the schedule for first production has been revised to the second quarter of 2020. This will just meet U.S. Strategic Command and NATO [North Atlantic Treaty Organization] operational requirements.

The B61–12 program will replace four current models with one and enable the retirement of the B83, the last megaton bomb in the stockpile.

Stable funding for the B61 life extension program is critical to the viability of the B–2 strategic bomber and commitments to our NATO allies. We thank you for your continued strong support of this program.

The world is safer today from the threat of full-scale nuclear war than it was during the Cold War. While the role and numbers of weapons are being reduced, maintaining a safe, secure, and effective nuclear stockpile is critical to deterring potential adversaries and assuring U.S. allies and partners. We ask for your support of the President's fiscal year 2015 budget request.

Thank you for the opportunity you have given us to testify today, and we look forward to your questions.

[The prepared statement of Secretary Weber can be found in the Appendix on page 41.]

Mr. ROGERS. I thank the gentleman.

Ms. Bunn, you are recognized for 3 minutes.

STATEMENT OF M. ELAINE BUNN, DEPUTY ASSISTANT SECRETARY OF DEFENSE FOR NUCLEAR AND MISSILE DEFENSE POLICY, U.S. DEPARTMENT OF DEFENSE

Ms. BUNN. Thank you, Chairman Rogers, Ranking Member Cooper, distinguished members of the subcommittee.

Thanks for the opportunity to testify on our nuclear forces. I would like to address several issues that go beyond my advance written statement.

Russia's unexpected and dangerous aggression in Ukraine, in violation of international law, compels us to revisit our expectations about future Russian behavior and to reassess a number of U.S. and NATO policies with regard to Russia. But two of our national interests are clear: First, strengthening NATO's collective defense. As General Breedlove said, "We are going through a paradigm shift." NATO Secretary General Rasmussen said at a recent ministerial, "We are now considering all options to enhance our collective defense, including an update and further development of our defense plans, enhanced exercises and also appropriate deployments," unquote.

Second, this administration, like its predecessors, has sought a stable strategic nuclear relationship with Russia, especially during times of turbulence elsewhere in the relationship, so we will continue to implement the New START Treaty ratified by the Senate in December 2010. We want to continue to implement New START with Russia, because it is in our national interest. The inspections and notifications under the treaty give us a window into Russian strategic forces and limits them for the duration of the treaty. And we will continue to pursue our concerns about Russian compliance with the Intermediate-range Nuclear Forces Treaty.

As Chairman Rogers mentioned, today we announced the strategic force structure that will bring us to the New START limits by February 2018 and provided the congressional report required under Section 1042. That report has details on this decision, so I won't go into all the details now, but let me just summarize that our 700 deployed strategic forces will look like this: 400 deployed intercontinental ballistic missiles [ICBMs], 240 deployed SLBMs, and 60 deployed nuclear-capable heavy bombers. The 100 nondeployed strategic missile launchers and bombers will consist of 54 ICBM launchers, including 50 warm ICBM silos—that is, empty but still functional—spread across three bases; 40 SLBM launch tubes; and 6 bombers. We will also convert 56 SLBM tubes to remove them from treaty accountability and convert 30 B–52 bombers to conventional-only role.

This force structure achieves right balance of flexibility, survivability, responsiveness of our nuclear forces and supports our national security objectives by providing a mix of force capabilities and attributes to ensure the President has an array of options available under a broad range of scenarios and preserves a just-in-case upload capability for each leg of the triad.

At present, Russia as well as the U.S. seems determined to preserve the strategic nuclear stability embodied in the New START Treaty.

Mr. Chairman, thank you for having me here today and, again, thank you for the work you do to provide for the common defense. Look forward to your questions.

[The prepared statement of Ms. Bunn can be found in the Appendix on page 51.]

Mr. ROGERS. Thank you, Ms. Bunn.

And without objection, the Section 1042 report that Ms. Bunn referenced will be entered into the record. So ordered.

[The information referred to can be found in the Appendix on page 147.]

Mr. ROGERS. Admiral Benedict.

STATEMENT OF VADM TERRY J. BENEDICT, USN, DIRECTOR, STRATEGIC SYSTEMS PROGRAMS, U.S. NAVY

Admiral BENEDICT. Chairman Rogers, Ranking Member Cooper, distinguished members, thank you for the opportunity to testify today. I represent the men and women of the Navy's Strategic Systems Programs.

My mission as the Director of Strategic Systems Programs [SSP] is to design, develop, produce, support, and ensure the safety and the security of our Navy's sea-based strategic deterrent capability, the Trident II (D5) Strategic Weapons System. My written statement, which I respectfully request to be submitted for the record, addresses my top priorities. I would like to talk to three this afternoon.

First, my top priority is the safety and the security of the Navy's nuclear weapons. Custody and accountability of the nuclear assets entrusted to the Navy are the cornerstone of this program. Our approach to the nuclear weapons mission is to maintain a culture of excellence and self-assessment that produces the highest standards of performance and integrity.

Second, the Navy is proactively taking steps to address aging and technology obsolescence. SSP is extending the life of the Trident II (D5) Strategic Weapons System to match the *Ohio*-class submarine service life and to serve as the initial baseline mission payload for the *Ohio* replacement submarine platform. This is being accomplished through a life extension program to all the Trident II (D5) sub systems to include launcher, navigation, fire control, guidance, missile, and reentry.

Finally, I remain concerned with the decline in demand for solid rocket motors. While the Navy is maintaining a continuous production of solid rocket motors, the demand from both NASA [National Aeronautics and Space Administration] and the Air Force has declined. This has put an entire specialized industry at risk. While the efforts of our industrial partners and others have created short-term relief, the long-term support of the solid rocket motor industry remains a national issue.

Thank you for the opportunity to testify today, and I will be pleased to take your questions at the appropriate time, sir.

[The prepared statement of Admiral Benedict can be found in the Appendix on page 65.]

Mr. ROGERS. Thank you, Admiral.

General Harencak, you are recognized for 3 minutes.

STATEMENT OF MAJ GEN GARRETT HARENCAK, USAF, ASSISTANT CHIEF OF STAFF FOR STRATEGIC DETERRENCE AND NUCLEAR INTEGRATION, U.S. AIR FORCE

General HARENCAK. Chairman Rogers, Ranking Member Cooper, distinguished committee members, thank you for your continued support of our triad and of our Air Force. I appreciate the opportunity to update the subcommittee today on Air Force nuclear programs and policies. I respectfully request that my written statement be entered into the record, and I look forward to your questions.

[The prepared statement of General Harencak can be found in the Appendix on page 76.]

Mr. ROGERS. Well done.

All right, birthday boy, Admiral Richardson. Congratulations on another birthday. We won't make you tell us how old you are, but—

Admiral RICHARDSON. All right. Thank you, Chairman.

Mr. ROGERS [continuing]. You are recognized for 3 minutes.

STATEMENT OF ADM JOHN M. RICHARDSON, USN, DIRECTOR, NAVAL NUCLEAR PROPULSION PROGRAM, U.S. NAVY

Admiral RICHARDSON. Chairman Rogers, Ranking Member Cooper, distinguished members of the committee, it is a privilege to testify before you. I am grateful for the consistent and strong support this subcommittee has given to Naval Reactors, and I look forward to the discussion of our fiscal year 2015 budget.

My budget request this year enables me to meet my primary responsibility to ensure safe and reliable operation of the Nation's nuclear-powered fleet. My fiscal year 2015 request is 26 percent higher than my fiscal year 2014 appropriation. This increase directly supports our increased workload, including three discrete national priority projects and sustaining the program's technical support base. The three projects include designing a new reactor plant for the *Ohio*-class SSBN replacement, refueling a research and training reactor in New York, and replacing the spent fuel handling facility in Idaho.

The funding for my technical support base, about $950 million, is absolutely essential, providing for resolution of emergent fleet issues, spent nuclear fuel management, technology development, and operation of prototype research and training reactors. It also provides my foundational capabilities, such as security, environmental stewardship, and laboratory facilities. In short, my technical base and my laboratories is the intellectual engine that drives safe, reliable, and responsible operation of the nuclear-powered fleet, past, present, and future.

$156 million of my request funds a new reactor plant for the *Ohio*-class replacement submarine. The new propulsion plant includes a reactor core designed to last the entire lifetime of that submarine, 42 years, without needing to be refueled, and will save the Navy over $40 billion in life-cycle costs.

The request for refueling and overhaul of our land-based prototype reactor, $126 million, is necessary to improving the technologies for that life of the ship core as well as training about 1,000 nuclear operators for the next 20 years.

The fiscal year 2015 request for the spent fuel handling recapitalization project, $145 million, is required to refuel aircraft carriers and submarines, providing a safe and effective means of processing and putting their spent fuel into dry storage. The existing expended core facility is close to 60 years old, is the oldest spent fuel pool of its type in the country. This facility is showing its age, including leaking water pool walls and cracked floors. And while operated safely and responsibly, it is getting harder every year.

My fiscal year 2015 request is especially critical in light of my fiscal year 2014 funding levels. As just one example, a 23 percent

shortfall to my operations and infrastructure requirements resulted in insufficient funds to do required maintenance on one of my land-based prototypes, and without relief, I will have no choice but to shut down that reactor, resulting in 450 nuclear-trained operators not reporting to the fleet, putting a greater burden on sailers and families that are already sustaining 9- to 10-month deployments.

Mr. Chairman, with the sustained support of this subcommittee to do our work, I will continue to lead my team to execute our work on time and on budget, and will search tirelessly for the safest and most cost-effective way to support the Nation's nuclear-powered fleet. Thank you again. I am ready to answer your questions.

[The prepared statement of Admiral Richardson can be found in the Appendix on page 90.]

Mr. ROGERS. I thank you.

Mr. Huizenga, you are recognized for 3 minutes.

STATEMENT OF DAVID G. HUIZENGA, ACTING ASSISTANT SECRETARY, OFFICE OF ENVIRONMENTAL MANAGEMENT, U.S. DEPARTMENT OF ENERGY

Mr. HUIZENGA. I am pushing that button. Is it on?

Mr. ROGERS. There you go.

Mr. HUIZENGA. Oh, there we are. Good.

Good afternoon, Chairman Rogers, Ranking Member Cooper, and distinguished members of the subcommittee. I am pleased to be here today to represent the Department of Energy's Office of Environmental Management [EM] and to discuss the many positive things the program has achieved and what we plan to accomplish under the President's 2015 budget request.

Our request of $5.3 billion for defense-related activities will allow the Environmental Management program to continue the safe cleanup of the environmental legacy brought about from five decades of nuclear weapons development and government-sponsored nuclear energy research. The request includes $4.865 billion for defense cleanup activities and $463 million for the defense contribution to the uranium enrichment decontamination and decommissioning fund should Congress choose to reauthorize the fund.

EM continues to pursue its cleanup objectives, guided by three overarching principles. Most importantly, we will continue to discharge our responsibilities by conducting cleanup within a safety-first culture that integrates environmental, safety, and health requirements and controls into all of our work activities.

After safety, we are guided by a commitment to comply with our regulatory and legal obligations and, finally, to be good stewards of the financial and natural resources entrusted to us.

This marks the 25th anniversary of the Environmental Management program, and we have achieved a great deal in that time. When we were created in 1989, we were charged with cleaning up 107 sites across the country with a total area equal to Rhode Island and Delaware combined. In the 25 years since EM has been working on these projects, we have completed 91 of the 107 sites and have made significant progress on the remaining 16.

The President's fiscal year 2015 budget request will allow us to continue to make significant progress on our ongoing cleanup mission. To provide just a few specific highlights, with the requested

funds, we will complete the treatment of 900,000 gallons of liquid radioactive waste at Idaho, emptying the last four of the site's aging waste storage tanks. We will continue construction of the waste treatment and mobilization plant at Hanford to process and immobilize liquid waste into solid-glass logs for permanent disposal. We will also continue to clean up the bulk of the more than 500 facilities along the Columbia River at Hanford.

And at Tennessee, we will complete the preliminary design for an outfall for our mercury treatment facility, while continuing to develop the technologies needed to characterize and remediate mercury in the environment. And finally, at Savannah River Site in South Carolina, we will immobilize and dispose of a million gallons of high-level waste, bringing the site's high-level waste mission to approximately 50 percent completion.

In closing, I am honored to be here today representing the Office of Environmental Management. EM is committed to achieving our mission and will continue to apply innovative cleanup strategies to complete the work safely, on schedule, and within cost, thereby demonstrating a value to the American taxpayers. We made significant progress in the last quarter century, and our 2015 request will allow us to capitalize on past investments and successes.

Thank you, and I will be happy to take questions in turn.

[The prepared statement of Mr. Huizenga can be found in the Appendix on page 95.]

Mr. ROGERS. And I thank the gentleman.

The chair now recognizes Dr. Winokur for 3 minutes.

STATEMENT OF DR. PETER S. WINOKUR, CHAIRMAN, DEFENSE NUCLEAR FACILITIES SAFETY BOARD

Dr. WINOKUR. Thank you, Chairman Rogers, Ranking Member Cooper, and members of the subcommittee. I am the chairman of the Defense Nuclear Facilities Safety Board, known as the DNFSB, or Board. We are the only agency that provides independent safety oversight of DOE's defense nuclear facilities. I have submitted a written statement for the record that describes the Board's mission and highlights a number of safety issues that are particularly important to ensuring that the DOE defense nuclear complex can safely accomplish its missions.

The Board's budget is essentially devoted to maintaining and supporting an expert staff of engineers and scientists, nearly all of whom have technical master's degrees or doctorates, to accomplish our highly specialized work.

The President's budget request for fiscal year 2015 includes $30.15 million in new budget authority for the Board. It will support 125 personnel. This level of staffing is needed to provide sufficient independent safety oversight of DOE's defense nuclear complex, given the pace and the scope of DOE's activities.

The Board provides safety oversight of the multitude of operations critical to national defense. These operations include assembly and disassembly of nuclear weapons, fabrication of plutonium pits and weapon components, production and recycling of tritium, criticality experiments, subcritical experiments, and a host of activities to address the radioactive legacy resulting from 70 years of nuclear weapons operations.

While the Board supports DOE and NNSA efforts to integrate safety into the design of new defense nuclear facilities, continued delays regarding the path forward for modernizing uranium and plutonium capabilities in a weapons complex requires the Board to provide safety oversight of ongoing work in existing aging facilities that do not meet modern safety standards.

In February, the Waste Isolation Pilot Plant experienced an underground fire and release of radioactive material. The board is reviewing available information to assess the causal factors, emergency response, recovery activities, and corrective actions for both of these events. Fortunately, no one was seriously hurt in either event. These were near misses.

The fire and radioactive material release events will serve as vivid reminders that accidents do happen and that they can have major safety consequences and mission impacts.

The Board continues to stress the importance of emergency preparedness, response, and recovery, and addresses this topic at each of its public hearings.

Let me add in closing that the Board and DOE together have built a constructive working relationship. Many of the safety concerns raised by the Board or our staff are addressed without the need for formal communications to DOE. I am confident that all Board members understand that an efficient, effective, and safe nuclear security enterprise is the highest priority and the needs of the Nation must come first.

This concludes my statement. I will be happy to answer any questions you may have.

[The prepared statement of Dr. Winokur can be found in the Appendix on page 106.]

Mr. ROGERS. Thank you, sir.

The chair now recognizes Mr. Held for 3 minutes.

STATEMENT OF EDWARD BRUCE HELD, ACTING ADMINISTRATOR AND ACTING UNDER SECRETARY FOR NUCLEAR SECURITY, NATIONAL NUCLEAR SECURITY ADMINISTRATION

Mr. HELD. Chairman Rogers, Ranking Member Cooper, members of the committee, I am honored to be with you today.

The fiscal year 2015 budget request for the National Nuclear Security Administration is a clear expression of President Obama's commitment to America's nuclear security. Within the fiscal constraints of the Bipartisan Budget Act, the President requests a 4 percent increase for NNSA to $11.7 billion. This includes a 26 percent increase for naval nuclear reactors and a 7 percent increase for nuclear weapons activities.

NNSA has performance challenges ahead of us, and Secretary Moniz will always be straightforward with you about those challenges. At the same time, NNSA has significant successes to build on, and the Secretary insists that we get out of our defensive crouch and honestly tell our success stories in a way that is meaningful to the American people.

Regarding nuclear security, for example, our counterintelligence program was dysfunctional less than 10 years ago. Today, DOE counterintelligence is highly effective, respected, and trusted. Less than 10 months ago, NNSA communications with our colleagues on

the Nuclear Weapons Council [NWC] were strained. Today those communications are healthy, more transparent, and this improved atmosphere is helping us focus on the big strategic issues for which the NWC exists.

On nonproliferation, in just the last 4 years, 11 countries plus Taiwan have eliminated their caches of sensitive nuclear materials and security has been hardened at scores of nuclear storage facilities worldwide to prevent theft by potential terrorists. The world is a safer place as a result.

On project management, NNSA has been on the GAO [Government Accountability Office] High Risk List literally since the day it was born in March 2000. Since February 2011, however, we have consistently been on schedule and on budget for large projects up to $750 million. As a result, GAO has taken NNSA off its High Risk List for projects of this size for the first time in the organization's history.

As you know very well, we still have issues with the multibillion dollar mega projects, but thanks to the greater discipline and more agile strategy that Secretary Moniz has brought with him, we are making progress on those projects as well.

That leads me to our first and foremost responsibility: nuclear safety. For nuclear safety reasons, we simply must modernize the aging infrastructure for enriched uranium processing in Oak Ridge; we must modernize the aging infrastructure for plutonium processing in Los Alamos; and wherever we can reliably do so, we should replace conventional high explosives in our nuclear stockpile with safer, insensitive high explosives.

And if we take a commonsense approach that emphasizes better sooner rather than perfect later, all of these are doable within reasonable cost. But if, heaven forbid, we have a nuclear safety accident because we have not done so, then, Mr. Chairman, NNSA will truly have failed and we will forever forfeit the trust and confidence of the American people for all things nuclear.

Thank you, sir.

[The prepared statement of Mr. Held can be found in the Appendix on page 133.]

Mr. ROGERS. I thank the gentleman.

I thank the panel. Well done on the time.

I am pretty impressed that you all were able to stay within that 3 minutes.

Mr. Held, I know that you have done a great service for this country by coming in on an interim basis at the NNSA.

Mr. HELD. Thank you, sir.

Mr. ROGERS. It looks like, hopefully, we are going to get you relief pretty soon. The ranking member and I sent a letter over to the Senate asking them to please take up the confirmation of our nominee.

Mr. HELD. Thanks. That letter, I think, hits this afternoon.

Mr. ROGERS. That is right. So it looks like the cavalry is on the way to help you out, but I wanted it entered into the record.

[The information referred to can be found in the Appendix on page 153.]

Mr. ROGERS. But with that, I do want to make reference to another letter. Mr. Held, Chairman McKeon and I sent a letter to

Secretary Moniz, which I will introduce in a minute, but to Secretary Moniz in March expressing our deep concern that DOE and NNSA had let another multimillion dollar facility construction project spin out of control, which you made reference in your opening statement.

We strongly support the need to replace the decrepit uranium facilities at Y–12, but it seems like NNSA and DOE has once again failed the Nation on this large contract. We have already spent over $1.2 billion on the design for this big-box uranium processing facility, and the NNSA is studying alternatives for that design. It seems like the big-box will never be built. So quite a bit of this $1.2 billion is gone with nothing to show for it.

I understand that your red team will propose an alternative approach a week from today. And I will introduce the letter that we sent to Secretary Moniz for the record.

[The information referred to can be found in the Appendix on page 154.]

Mr. ROGERS. My question is, who within the DOE, NNSA, and its contractors is being held accountable for this massive failure?

Mr. HELD. Sir, as you know, that has been a major problem. The big-box strategy has not worked for us. We are finding that the better sooner rather than perfect later is the way to go. That seems to be working effectively, shows great promise in the plutonium reprocessing facilities up at Los Alamos, and that is the reason why we are doing this, taking the same approach down at Oak Ridge with uranium.

The big-box approach that we were on, thanks to the CAPE [Cost Assessment and Program Evaluation] study, was really looking, it was going to—it would not be—we would not get into a new facility until the year 2038, which is close to 100 years after the original building at 9212 was constructed and well after most people who are today working at Oak Ridge would be long retired. So we have got to do better than that, and that is the reason that I have asked Thom Mason, the director of Oak Ridge National Laboratory, to lead the red team from across the complex to take a look at this issue and to get us a better solution by the year 2025 within the budget constraints.

In terms of accountability, I think you have seen that we have changed the—we have selected a new management and operating [M&O] contractor down at Oak Ridge. We will be driving that contract to performance excellence. Bob Raines, at our Acquisition and Project Management, will be doing that. And you have also seen, I believe, that the Federal site office manager has been replaced over the past year.

Mr. ROGERS. You are talking about the program manager?

Mr. HELD. On that, on the Federal site office manager, we brought in a new Federal project manager, John Eschenberg.

Mr. ROGERS. What happened to the project manager who was overseeing this when it went off the track?

Mr. HELD. They are gone now at this point.

Mr. ROGERS. Are they still employed with the government, or are they fired?

Mr. HELD. I believe they retired. I can take that and check that out for you, the factual. We brought in John Eschenberg specifically to take a look at that project.

[The information referred to can be found in the Appendix on page 159.]

Mr. ROGERS. Did he have sole responsibility for this project when it went off the rail?

Mr. HELD. John? No. John has been brought in since that time. And John does—he is the Federal project manager——

Mr. ROGERS. But $1.2 billion. Anybody else lose their job over this?

Mr. HELD. The previous project manager and the previous site office manager are no longer with us, yes, sir.

Mr. ROGERS. Does that mean they are retired or terminated or just relocated?

Mr. HELD. I believe they both retired, sir.

Mr. ROGERS. Okay. Let me ask this: Do you have any idea as yet how much we are going to be able to use of the engineering that came from that $1.2 billion in whatever we do and how much is just gone?

Mr. HELD. Some of it is just gone. We need to be frank and honest about that, some. The M&O contractor who was designing it made some mistakes. Some of that is gone.

The effort underway by Dr. Mason is one of the elements of the charter letter, the charge letter that I sent to him is to use as much of the existing design and to profit from as much of the U.S. taxpayer investment as possible as we look for a smarter and faster way to proceed.

Mr. ROGERS. Yeah. What percentage would you estimate that we have just lost, 25 percent, 50 percent of the engineering that we paid for?

Mr. HELD. I would have to get a specific—I will take the question and get a specific number for you, but I would guess it is probably close to half of it.

[The information referred to can be found in the Appendix on page 159.]

Mr. ROGERS. That is awful. Will you also provide to the Congress an updated detailed project description and project data sheet for the uranium facility within 2 weeks, because the fiscal year 2015 budget request materials are asking us to authorize and appropriate $335 million to continue design activities for a big-box facility that is almost certainly never going to get built?

Mr. HELD. The—it is—we will get Dr. Mason's report a week from today. I think it unlikely that we will have a big-box strategy. I think it unlikely that he will recommend a big-box strategy. And we would be using that money to effectively implement a more cost-effective and more quicker approach. We really need to get out of Building 9212 by the year 2025 at the very latest.

Mr. ROGERS. When he gets that to you, will you get us to us, please?

Mr. HELD. We will get it very promptly to you, sir.

Mr. ROGERS. Great. Thanks.

[The information referred to is For Official Use Only and retained in the committee files.]

Mr. ROGERS. Mr. Weber, in the fiscal year 2014 budget cycle, the DOD's CAPE office proposed a large set of efficiencies at NNSA that would help NNSA put more money directly toward military priorities, particularly the warhead life extension program. The Nuclear Weapons Council, including acting NNSA Administrator Miller agreed to this multiyear, multibillion dollar set of efficiencies. As executive director of this council, did you review those proposed efficiencies, and did you support them in the fiscal year 2014 budget and out-years?

Secretary WEBER. Yes, Mr. Chairman.

The Nuclear Weapons Council in its certification of the fiscal year 2014 budget submission had reviewed those efficiencies, which were baked into the—to the budget request in fiscal year 2014. I believe it was about $340 million.

It is not a one-time act. This is a continuous process improvement, and our CAPE office is available on a continuing basis to support NNSA in its efforts to drive even more efficiencies.

Mr. ROGERS. Okay. Last week in my office, you told me that the DOD report that has details on these proposed efficiencies, that you have it with you today. Do you have that?

Secretary WEBER. No, Mr. Chairman. We will have that for you. And I have spoken to Acting Administrator Bruce Held about this. We will have that for you, the full report that is due to you, and I apologize that it is tardy, by the end of this month.

Mr. ROGERS. Okay. And do you know offhand how much—where those efficiencies were for fiscal year 2014?

Secretary WEBER. I believe the number was $340 million, Mr. Chairman.

Mr. ROGERS. And how about 2015?

Secretary WEBER. It was over the Future Years Nuclear Security Program [FYNSP] of the 5-year plan.

Mr. ROGERS. Okay. With that, I yield back, and I recognize the ranking member for any questions he may have.

Mr. COOPER. Thank you, Mr. Chairman.

And I thank the witnesses for being here. I can't imagine a heavier responsibility on this Earth than being in charge of the entire nuclear weapons enterprise for the United States, so I trust that you gentlemen and ladies will do your jobs to keep them safe, secure, and reliable.

Ms. Bunn, you mentioned the New START 1042 document, and it is my understanding that that is solidly supported by the Joint Chiefs of Staff. Is that correct?

Ms. BUNN. Yes, sir.

Mr. COOPER. I think it is important to get that on the record so the American people know this isn't just some Pentagon document, this is a consensus of the Joint Chiefs.

Dr. Winokur, if you could tell me what lessons, if any, we should learn from the Waste Isolation Pilot Plant [WIPP] disaster or near disaster that happened in February.

Dr. WINOKUR. Well, Mr. Cooper, I think there are several lessons we can learn from it. If we go back to the immediate cause of the accident, the proximate cause, there was obviously a shortfall in preventative maintenance. What happened was a salt truck caught on fire, so that was certainly an issue that we have to deal with.

I think that there were issues with emergency response and preparedness that need to be addressed. It is something that the Board has a great deal of interest in.

And there were obviously mistakes made during the response of the fire and during the response of the contamination events. That is a lesson we should take away from it.

I think that what we saw, once again, were weaknesses in the contractor assurance system and the Federal oversight, and those are also areas that we are going to have to strengthen, or I think the Department of Energy needs to strengthen over time.

I think the last I think thing I take away from it, and I said it in my spoken statement, is that accidents happen, and we need to be prepared for them. It isn't just Fukushima; these aren't just chance occurrences. There are a lot of low-probability, high-consequence accidents the Department and NNSA need to be willing and able to deal with.

Those are the things I would immediately take from it.

Mr. COOPER. Is there a timetable for that facility to reopen?

Dr. WINOKUR. That would be—excuse me—a better question for Mr. Huizenga.

Mr. COOPER. Mr. Huizenga.

Mr. HUIZENGA. We have sent teams down into the mine twice now into—through the air intake shaft and the salt handling shaft, and we have established in a sense a clean area down in the mine from which a base of operations. Within the next week or two, we will proceed to the waste space and try to understand exactly what happened. And really I won't be able to give you a clear sense of timing until we actually get to the waste space and understand better what actually occurred.

Mr. COOPER. Are we weeks away, months away?

Mr. HUIZENGA. We are probably, you know, within a couple weeks of actually getting to the waste space, that would be my guess, and at that point, we will—we are already—in anticipation of what we might find, we have been working with the chairman, Winokur, and his staff to understand, you know, how to make sure that we proceed safely as we traverse the probably thousand feet or so from our entry point over to the waste space and what we might indeed have to do once we get there to ultimately clean up the contamination and get back in business, but we are committed to do so and committed to do so in a safe manner.

Mr. COOPER. Admiral Richardson, you mentioned the 26 percent increase for Navy nuclear. I think it is very important that people understand that in a time of tight budgets, it is not just automatic pilot, everybody frozen, but certain priorities need to be funded and processed. So I hope that we will be able to take into account needs wherever they arise, whether it is a Navy nuclear, whatever, because we can't just have a one-size-fits-all approach here.

Admiral RICHARDSON. Thank you, sir. And as I said in my opening statement, that increase does directly address those national strategic priorities, and we are committed to doing that in the most cost-effective but safe manner, safe and reliable manner as we go forward.

Mr. COOPER. Mr. Held, we have a long way to go. I know it is progress for NNSA to be off the High Risk List, but still there are

many, many other issues. I was interested in that small bit of bright news: Eleven nations have curtailed their nonproliferation risk of complete disposal of risky materials. Could you elaborate on that?

Mr. HELD. Eleven nations plus Taiwan have completely eliminated their special nuclear materials. They have no more special nuclear materials. The world is a much safer place as a result of that.

Mr. COOPER. What percentage of the total problem is 11 nations plus Taiwan?

Mr. HELD. I would need to take that for the record. Anne Harrington is here and might be able to provide more detail. I would not say that totally solves the whole problem, though. There—I would say that in the last 4 years, we have done an awful lot. There is an awful lot to do ahead of us, and our budget request for $1.6 billion is an awful lot of taxpayer money to do it with. We are looking for ways. As you say, you can't have a one-size-fits-all approach. You go from the NNSA budget, 26 percent increase for Admiral Richardson's budget to a 20 percent decrease on the nuclear proliferation side for Anne Harrington's budget. So that is, I think, indicative of some deep thought in what we were doing.

[The information referred to can be found in the Appendix on page 159.]

Mr. HELD. We are taking a moment to step back and look at the synergies that we can find between nonproliferation and the weapons program, nonproliferation and civil nuclear energy programs.

Mr. COOPER. Thank you, Mr. Chairman.

Mr. ROGERS. I thank the gentleman.

The chair now recognizes Mr. Brooks of Alabama for 5 minutes.

Mr. BROOKS. Thank you, Mr. Chairman.

General Harencak, when does our current force of Minuteman III ICBMs start aging out?

General HARENCAK. Sir, we are tasked with the United States Air Force to maintain the Minuteman IIIs to 2030. Their ability to reach that will require certain improvements and modernization. So the answer to that question is we will maintain into 2030. They will be safe, secure, and effective to then, but in order to get us there, we are going to have to make some—going to have to make some choices as to what we would modernize, what we would replace.

Mr. BROOKS. What life extension programs are currently underway for these ICBMs in order to maximize their life expectancy?

General HARENCAK. We are looking at upgrades, sir, for the propulsion. We are looking at upgrades in batteries, we are also working on an improvement program for the guidance systems. And, of course, we are about to complete the analysis of alternatives [AOA] on a follow-on ground-based strategic deterrent.

Mr. BROOKS. And do we have any plans or programs in place to replace the Minuteman III ICBM force as we reach their expected lifetime?

General HARENCAK. Sir, right now, we are focused on sustaining it to 2030, but as I said, we are beginning the process to look at a potential follow-on, which is what the AOA for the ground-based strategic deterrent will do.

Mr. BROOKS. Do you have a judgment as to when the decision should be made for a replacement program, given that there is a lead time for the decision being made, the research and development being done, the manufacturing being done, and us actually having a replacement that we can put in?

General HARENCAK. I believe, sir, the plan would be that we would be making those decisions in the early 2020s.

Mr. BROOKS. Thank you.

And Admiral Benedict and General Harencak again, how do we support the industrial base for ICBM and submarine-launched ballistic missiles, particularly in solid rocket motors?

Admiral BENEDICT. Yes, sir. So we currently have a very collaborative program working right now between the United States Navy and the United States Air Force. We have identified eight different technology areas that we are exchanging data, solid rocket motors being one of those eight, and we are working very closely with industry. If we can't use the exact same propellent, then our next mode of investigation is to find common constituents which can be mixed to a different formulation, which would address both Navy and Air Force needs. That is ongoing effort, sir.

Mr. BROOKS. General, do you have anything to add in that regard?

General HARENCAK. Yes, sir. And the United States Air Force and United States Navy has embarked on a deep set of cooperation initiatives where we are going to be able to leverage both of our buys, if you will, whether they be in raw materials or completed components that I think will certainly provide some efficiencies but also help our industrial base.

Mr. BROOKS. This subcommittee has been informed that there is a low-rate production program in place for the D5 submarine-launched ballistic missile program. Is a similar program in place for a Minuteman III and do we need low-rate production for the ICBM to sustain the industrial base or provide capabilities to the Air Force?

General HARENCAK. Sir, the first—the answer is no; however, it is—we are definitely investigating it, and we will be able to make a more reasoned judgment on that as we get the AOA and as we start to make decisions on global—on the ground-based strategic deterrent.

Mr. BROOKS. Why not? You said, "No," but my follow-up is, why not?

General HARENCAK. Again, sir, we are not—we are looking at how we are going to sustain this. We are also looking at the analysis of alternatives, which has not come back yet. It will come this summer. We will certainly be investigating should we begin a formal program for that, but we have not yet.

Mr. BROOKS. Admiral Benedict, do you have anything to add?

Admiral BENEDICT. Sir, we are currently maintaining a low-rate motor production program in support of the D5. Today the United States Navy is the only program that has strategic propulsion in production. I am maintaining a warm line at 12 rocket motors per year, which is the minimum sustaining safe rate for solid rocket motor production of a size and type to support the United States Navy.

Mr. BROOKS. Thank you, Mr. Chairman.

I yield back.

Mr. ROGERS. I thank the gentleman.

The chair now recognizes Mr. Langevin for 5 minutes.

Mr. LANGEVIN. Thank you, Mr. Chairman.

I want to thank our panel for your testimony here today and the work you do on behalf of protecting the country.

My first question will go to Ms. Bunn. So did—or Secretary Weber could also comment—but did opting not to do an environmental assessment of ICBM silos, as DOD had initially planned to do and as the Air Force General Counsel had concluded could be done, still enable the Secretary of Defense to provide all possible options to the President to make a determination on optimal nuclear force structure?

Ms. BUNN. Congressman Langevin, there was a lot of information gathered over 2 years time. We would have liked to have had further information through an environmental assessment [EA] to have even more information, but the decision that was made was a good one that was supported by the Department of Defense broadly.

Mr. LANGEVIN. And to Admiral Benedict, in your military opinion, does reducing sub tubes as opposed to reducing silos provide the most survivable and stable deterrent?

Admiral BENEDICT. Yes, sir. As Secretary Bunn said, we have participated extensively in the various analysis on force structure. I believe, in my professional opinion, that the decision is very much in concert with the course that has been set as we move towards the *Ohio* replacement program of 12 submarines with 16 tubes. So the deactivation of four tubes on *Ohio* is very consistent with the long-range decision that has already been made by the Secretary of Defense and the administration.

Mr. LANGEVIN. Thank you.

To the panel, given the concerns about Russian compliance with its arms control treaty obligations, should we stop U.S. nuclear reductions or any potential negotiations for further nuclear weapons reductions, and how does this impact the need for verification?

Ms. BUNN. Congressman, we are pursuing the troublesome concerns we have about the INF treaty, Russian compliance with that, but that said, they are now abiding by New START provisions, and we see it as in our national interests to have the window on their—on what—their force structure and where they are headed through the inspections and verification measures. So we see it as in our interests to continue with the New START Treaty, as I said in my opening statement. Especially in times of turbulence elsewhere in the relationship, we want to keep that strategic nuclear relationship as stable as you can. Thank you, sir.

Mr. LANGEVIN. Thank you. Well, I would tend to agree, but I thought it was important to get the question out there, and I appreciate your answer.

So, for Mr. Held, and I understand Ms. Harrington is available to answer questions as well, but I have to say, I am very concerned about the downward funding trend for key nonproliferation programs, and this includes the Global Threat Reduction Initiative [GTRI], which was reduced by 25 percent since last year and near-

ly 30 percent since fiscal year 2013, and defense—nuclear nonproliferation research and development [R&D], which was reduced by 10 percent since fiscal year 2014 and 14 percent since fiscal year 2013, due to the, and I quote, the need to fund higher NNSA priorities within the broader security—during the broader budget austerity, according to the budget documents. Meanwhile the projections for the—in the fiscal year 2012 budget plan for steady increases.

Now, while President Obama identified the prevention of nuclear proliferation and nuclear terrorism as the top priority identified in the Nuclear Posture Review and the nuclear employment guidance issue last year and was the focus of the latest nuclear security summit. So my question is, what were these high priorities? Why doesn't NNSA funding priorities match up to the President's priorities? And which would you have accomplished if R&D and GTRI had not been cut?

Mr. HELD. Sir, we are concerned as well for the reductions. The pain was—painful decisions had to be made within the caps of the Bipartisan Budget Act, and I think the broad spread of the increases and decreases is reflective of very serious consideration and balances of what we were trying to achieve. Over half of the reduction on the nonproliferation account is in the—is related to the MOX [mixed oxide] project in South Carolina, where cost overruns have presented us with a very difficult good government problem on how to proceed.

In these other areas, however, some of the reductions are as a result of programs coming to a natural end at the end of the 4-year surge that the President announced in Prague 4 years ago. Some of them are admittedly painful. They are very valuable programs, and we need to protect them.

As I said previously, though, $1.6 billion remains an awful lot of taxpayer money to spend on these issues, and we are looking for ways of driving synergies with other areas of the program to maximize the return to the taxpayer on these things.

Mr. LANGEVIN. I appreciate your answer. My time has expired. I would just say that the threats are not decreasing, clearly. I don't believe that NNSA priorities square with what President Obama has identified when he talks about prevention of nuclear proliferation and nuclear terrorism as a top priority. I am concerned that what I am seeing in this NNSA budget doesn't reflect that concern.

So thank you, Mr. Chairman. I yield back.

Mr. ROGERS. I thank the gentleman.

The chair now recognizes the gentleman from South Carolina, Mr. Wilson, for 5 minutes.

Mr. WILSON. Thank you, Mr. Chairman.

I would like to thank each of you for being here today. I appreciate your service. I have a special appreciation. I am an alumnus of the Department of Energy myself, and so I want to wish you well.

And I do share the concerns of Mr. Langevin, particularly about nonproliferation. I am very concerned. And Mr. Held in particular, the administration's decision to place the Savannah River Site mixed oxide fuel fabrication facility, MOX, which transforms weapons-grade plutonium into green fuel; by placing this into cold

standby, I believe it interrupts the environmental cleanup missions and disrupts the nonproliferation efforts.

Last week you and Representative Marcy Kaptur from Ohio discussed the issue. Representative Kaptur cited a report from a January 16th paper published by former Russian negotiators of the initial U.S.-Russia plutonium disposition agreement back in the year 2000. As Representative Kaptur pointed out, the paper cited that if the Americans strayed from the current agreement regarding MOX, the Russians would have the ability to consider enrichment of their plutonium and would not place a priority on international monitors.

As a concerned member of this committee, I believe we should have assurance from Russia that they will not seek this path before we even consider placing MOX into cold standby.

Going back to the hearings last week, Secretary Moniz told Representative Mike Simpson that the Department was considering four alternatives to MOX. However, he noted, that only two were less expensive than MOX. It is my understanding that these alternatives would require in addition to—in addition to renegotiations with the Russians, a change in the Nuclear Waste Policy Act for the State of New Mexico to receive the material.

Have you reviewed this plutonium placement in New Mexico with the State of New Mexico and its delegation? What is the opinion of the leadership of New Mexico?

Mr. HELD. Thank you, sir. First, the world will be a much safer place if both the United States and Russia dispose of 34 metric tons of weapons-grade uranium. Very simply, the world will be a safer place, and the Secretary is committed to that mission. In terms of the agreement with the Russians, the original agreement in 2000 had us actually both committed to pretty much the use of the MOX technology to get rid of the—to dispose of the plutonium. At Russian request, we revised the agreement in 2010 to allow them to use a fast reactor rather than the MOX approach. So there is a precedent for revising the agreement should we have a need to do so. And we have not had formal discussions with the Russians on this matter, but we have had informal discussions, before the Crimea incident, I must say. And there was an indication, a businesslike indication that they would be prepared to talk about these things if a need arose to do so. So it really comes down onto the question of—a good government question of how do we do this? What is the best way?

And the GAO issued a very good report recently on MOX that really kind of made—pointed out the serious mistake was made in 2007, when we rushed to construction before we had a design. That was not a smart thing to do. And we support GAO's call for a really deep look in why we made that decision. So the question is how do we best address this mission focus? We have sunk $5 billion into the MOX project already. The assessment is that we have got $25 billion more to go in full life-cycle costs. So the good government decision, is there a way to achieve this mission that costs less than $25 billion?

John MacWilliams, who is a former investment banker that Secretary Moniz brought in, has done very, very thorough and very clear-eyed look at this. And we do believe that there are options

that are significantly cheaper. I think we owe it to the committee to get you that report as soon as we possibly can so that we can all together make a very good government decision. One of the options could still be the MOX project, though, if we can work with the M&O contractor and drive down the price of actually making. The real question is, what is the smartest way that is cheaper than $25 billion?

Mr. WILSON. Well, I would tell you that indeed the facility is 62 percent completed. I believe—and not to be critical, NNSA, the contractor, you should be working together, because this can be done. The alternative is truly putting our country at risk, I believe, in having weapons-grade plutonium either in South Carolina or in New Mexico. And it just doesn't need to be done. And I truly hope you will look at the numbers. Because additional facts have come out that, indeed, yes, life-cycle, the whole facility, but the result of creating fuel offsets truly so much of the cost. And again, this is not to be adversarial. I want to work with you. Thank you very much.

Mr. HELD. This is really a good government decision. So we appreciate that. It is a really hard decision, and we really owe it to you to get you that report so we can actually have this conversation in a clear way.

Mr. WILSON. Well, nuclear cleanup is just so important. So, please, thank you.

Mr. HELD. Yes, sir.

Mr. ROGERS. I thank the gentleman. His time has expired.

The chair now recognizes the gentleman from California, Mr. Garamendi, for 5 minutes.

Mr. GARAMENDI. Thank you, Mr. Chairman.

I am going to continue on this discussion about the MOX facility.

Mr. Held, you mentioned Russia wants to consider a fast reactor. Could you talk about that more? Do you have more information about the type of reactor they are talking of using?

Mr. HELD. That is probably, sir—I am a retired CIA [Central Intelligence Agency] operations officer, used to being in dark alleys more than on highly technical things. So I can get you an answer, a very detailed technical answer.

[The information referred to can be found in the Appendix on page 159.]

Mr. GARAMENDI. My understanding is they are interested in the PRISM reactor, and Mr. Belikov has recently met to discuss that issue. That is not a CIA issue, but that is an open source issue.

Mr. HELD. That is my understanding, sir, but the technical aspects of that are probably beyond my competency.

Mr. GARAMENDI. This is your wheelhouse. This is your issue.

Mr. HELD. Yes, sir.

Mr. GARAMENDI. I am not interested in hearing you say you don't have the technical expertise to discuss this matter, because you are one of the primary decisionmakers, are you not?

Mr. HELD. Yes, sir, I am the acting administrator, and I am proud of it, sir.

Mr. GARAMENDI. When will you acquire the technical expertise on this matter?

Mr. HELD. The NNSA has that technical expertise today, sir.

Mr. GARAMENDI. Apparently, they didn't bother to brief the acting administrator. Enough said. Let's move on.

Mr. HELD. Okay, sir.

Mr. GARAMENDI. Do the pits and secondaries that we hold in reserve, are they part of the hedge for our nuclear deterrent, Mr. Held?

Mr. HELD. One of the main reasons, sir, that we are moving to interoperable warheads is so that we can actually reduce the size of the hedge. The 3+2 strategy allows us to maintain a safe, secure, and reliable deterrent based on a smaller deterrent.

Mr. GARAMENDI. I know all that. My question goes directly to the pits and secondaries.

Mr. HELD. And that goes to the design of the pits and secondaries.

Mr. GARAMENDI. Are they part of the hedge?

Mr. HELD. Yes, sir, in terms of they are part of the interoperable warheads.

Mr. GARAMENDI. And I would appreciate a detailed, detailed reply to my question concerning Russia's apparent interest in the PRISM reactor.

Mr. HELD. They are—yes, sir, we will get you that. They, based on the 2010 agreement, they are pursuing the fast reactor.

Mr. GARAMENDI. The other question has to do in your testimony, you talked about four different proposals that are being investigated by NNSA.

Mr. HELD. Yes, sir.

Mr. GARAMENDI. But the disposition, the MOX, the one you said, reactors, and a nonreactor approach. What is the nonreactor approach that you are looking at?

Mr. HELD. The nonreactor approach would be dilution and then storage in a geographic repository.

Mr. GARAMENDI. Very good. I would appreciate more detail on all four of those proposals that you are looking at.

Mr. HELD. I think the—report will get you that.

Mr. GARAMENDI. What is the timeframe for that report?

Mr. HELD. We are hoping to get it out next week, sir.

Mr. GARAMENDI. I am sorry, when?

Mr. HELD. We are hoping to get it out next week.

Mr. GARAMENDI. Good. I will await that.

My next question goes to Ms. Bunn. Is the DOD planning to reevaluate the number of B61s that would have to undergo life extension? And was that analysis—what was the analysis that determined the number of B61s required?

Ms. BUNN. Sir, I don't know of any reevaluation going on. I would defer to my colleague, who is the executive director——

Mr. GARAMENDI. Then let's refer to Mr. Weber.

Secretary WEBER. The B61 mod 12 will be used both for the dual-capable aircraft in Europe in support of our NATO commitments, as well as on the B–2 strategic bomber. So as we go into production in early 2020, the total quantity of production is something that will be determined in——

Mr. GARAMENDI. The current budget for the B61 life extension——

Secretary WEBER. Yes.

Mr. GARAMENDI [continuing]. Presumably is based upon some number of B61 bombs that will be extended. Is that true?

Secretary WEBER. Yes. It is based on the current requirements, which are a combination of the Strategic Command requirement and the requirement for Europe. But that doesn't mean that it wouldn't be reviewed between now and the start of production in 2020.

Mr. GARAMENDI. So sometime between now and 2020, which is what, 6 years, 7 years from now, you will have an analysis about how many we are actually going to rebuild?

Secretary WEBER. Yes.

Mr. GARAMENDI. That is particularly unuseful. Excuse me. You have a plan today to rebuild a certain number of bombs which, as I understand, is a classified number.

Secretary WEBER. The stockpile management plan, which has those numbers, and the Nuclear Weapons Stockpile Memorandum [NWSM], which has those numbers, have been provided to Congress. But they are certainly subject to change as our nuclear posture evolves.

Mr. GARAMENDI. So we are headed down a path of rebuilding B61 bombs at a certain pace, certain number, based upon an analysis that was done when?

Secretary WEBER. It is a current analysis, but it is subject to review on an annual basis.

Mr. GARAMENDI. So it is not 2020 that we will have the next review. It will be annually.

Secretary WEBER. Yes.

Mr. GARAMENDI. Thank you. Mr. Chairman, I am out of time. I yield back.

Mr. ROGERS. The gentleman's time has expired.

The chair now recognizes the gentleman from Colorado, Mr. Lamborn, for 5 minutes.

Mr. LAMBORN. Thank you, Mr. Chairman.

I also thank the gentleman from Arizona for yielding.

Ms. Bunn, last week the New York Times reported in an interview that General Breedlove, commander of European Command and NATO Supreme Allied Commander, described Russia's development of a cruise missile with a range prohibited by the Intermediate Nuclear Forces [INF] Treaty as a, quote, "militarily significant development," unquote. He elaborated, "A weapons capability that violates the INF that is introduced into the greater European land mass is absolutely a tool that will have to be dealt with. It can't go unanswered." So our general responsible for prosecuting any potential conflict in Europe is saying this changes the military calculus. Has your office, OSD [Office of the Secretary of Defense] Policy, provided guidance to General Breedlove on this apparent violation of INF on how to adjust defense postures, what to say to NATO allies, and what the policy implications there are for further arms control with Russia?

Ms. BUNN. Congressman Lamborn, the U.S. and NATO are reviewing a lot of policies right now in the face of what Russia did in Ukraine, and in the face of INF compliance concerns. I don't want to get out ahead of our NATO allies in an open session. Be happy to come and talk with you about that.

Mr. LAMBORN. Okay. So we can talk further a classified setting on what the guidance is that you are giving General Breedlove, our NATO Allied Supreme Commander.

Ms. BUNN. We are assessing now. That is where we are in the last—that is where we are on this issue.

Mr. LAMBORN. Well, I understand how the Crimean developments have given a new urgency to this, but we have known about the INF treaties for a period of time. So I mean I guess I would hope we would be farther along than just still assessing. And as a follow-up, the Quadrennial Defense Review [QDR] states, quote, "We," that is the U.S., "will pursue further negotiated reductions with Russia," unquote. Given what we just talked about with Crimea and all those developments, does DOD still support new negotiations with Russia to reduce U.S. nuclear forces?

Ms. BUNN. Congressman, the Russians have shown no interest in further reductions. And I think given where we are with Ukraine, we don't have military to military or civilian—we don't have contacts on these kinds of issues now for further reductions.

Mr. LAMBORN. Okay. Well, I am glad to hear that that's the status at the moment. But the QDR was drafted some, you know, some months ago. And at that time, those who drafted it said, yeah, let's continue further reducing nuclear forces, including U.S. weapons, with the Russians. So—what were you going to say?

Ms. BUNN. I was going to say that the President last June, when he put out his nuclear weapons employment guidance, after several years of study and assessment with all of DOD, the combatant commanders and so forth, assessed that we could, we could in our own national interest, we could reduce by up to a third our deployed nuclear weapons. However, we wanted to pursue that in negotiations with the Russians, not do it unilaterally. As I say, I don't see negotiations on that occurring any time soon.

Mr. LAMBORN. Did the President know about the Russian cheating at that time?

Ms. BUNN. This is, as you know from classified hearings that have been held in this very room with this subcommittee and others, it is very hard for me to go into much detail on this issue. Thank you.

Mr. LAMBORN. I guess I will just make a comment. I don't see how we can be considering a third reduction, a one-third reduction of U.S. nuclear forces with someone like Russia, even before Crimea. I mean, Crimea is the icing on the cake. But even before that, with the INF cheating, I would think that that should have been a nonstarter. Is there anyone in the administration that is contemplating unilateral U.S. nuclear force reductions?

Ms. BUNN. Not that I have talked with, no, sir.

Mr. LAMBORN. Okay. I am glad to hear that. Thank you so much.

Mr. Chairman, I yield back.

Mr. ROGERS. The chair will recognize Mr. Nugent from Florida.

Mr. NUGENT. Thank you, Mr. Chairman. And I want to thank our panel for being here today. A lot of questions, obviously. You can see the frustration on Members up here in regards to getting I guess some specific answers. And Mr. Garamendi is certainly one of those that obviously has shown some frustration.

Your response, though, to Congressman Lamborn as regards to the guidance given to General Breedlove. I mean, it was his comment, open-source comment, reference to the fact that there was a game changer in regards to the INF, what he believes is an INF violation, particularly as it relates to the weapon that—the cruise missile that was designed by the Russians. I mean, what direction do we give him? I mean, is it like, don't worry about it; we are going to handle this? We are going to staff it; we are going to do whatever? I am just a little concerned about where he feels he is. Because right now, he is between a rock and a hard spot with everything that is going on in Ukraine.

Ms. BUNN. General Breedlove has a very hard job at this moment, Congressman.

Mr. NUGENT. He does.

Ms. BUNN. He really does. In fact, I was in a meeting with him just about a week and a half ago. There are, again, when—it is very hard to address this issue in open session. When there are—when there are threats that are unexpected, you have to figure out what options there are for dealing with them when they arrive—before they arrive. There are a lot of options for doing this.

Mr. NUGENT. Let me ask you this. Have we confronted the Russians about that possible treaty violation?

Ms. BUNN. Yes, sir. We have. Yes. A number of times. We have raised it with them. We were not satisfied with their answer. We said, we will keep pressing them on this. It has been raised at a number of levels.

Mr. NUGENT. I don't think Putin really cares that we care. So, you know, I don't know where you go from there. I mean, I am new at this myself, so I am not sure. We will get off that subject.

But Admiral Benedict, the *Ohio*-class replacement, particularly it is probably one of the strongest—nothing against the other aspects of our nuclear deterrent, but it certainly is one that is most survivable. And the Navy's Strategic Command and Department of Defense have all been very clear that they believe there is a 12-boat minimum in regards to that. Am I clear that we are actually not going to build 12 boats? That has been discussed or is not.

Admiral BENEDICT. No, sir, the current program of record is to procure 12 boats.

Mr. NUGENT. Within what time period?

Admiral BENEDICT. First boat commences construction in 2021, delivers in order to support a 2031, and then follows out from there. But the program of record is a 12-boat program.

Mr. NUGENT. Is for 12 boats?

Admiral BENEDICT. Yes, sir.

Mr. NUGENT. Evidently, the information we had was incorrect. Because obviously, I believe that is a huge hedge as we move forward in regards to our nuclear deterrence. And I hate to go to the Air Force, having been prior Air Force, but, you know, we certainly have had a lot in the press in regards to the Air Force and our readiness, at least our training aspect of our readiness. What can you do to assure me that we are okay, that we have got—whatever the culture issue is going on within the Air Force has been corrected. Because we don't hear the same issues, you know, coming from the Navy. So I would certainly like to hear your take on that.

General HARENCAK. Yes, sir. As this unfortunate breach of integrity of a small number of our officers occurred at Malmstrom, we promised in the Air Force that we were going to aggressively investigate it. And we did that extensively. We said we were going to hold anybody found accountable to it, and we have certainly done that. But most importantly, what we said is we would get to the root cause, what we believe to be the root cause and that we would begin a force improvement plan that would address some of the issues that we believe were causal.

Mr. NUGENT. What do you think the number one issue was?

General HARENCAK. Well, number one issue was, of course, the lack of integrity and the belief that there was a—it was necessary for these young officers to score a hundred percent on a test that they could reliably score a passing grade on. So we have embarked on a very aggressive campaign to assess, fix, and make sure that we permanently address this particular cultural issue of missileers that they had to have a complete and absolute zero defect. We believe, and we have shown for many, many, many decades, that our safe, secure, and effective stockpile of the two legs of the triad that we do is accomplished with a mission of zero defects. However, however, somewhere in there it was translated to these young officers they had to have zero defects, that they could not make any mistakes. We have addressed that, and we are going to continuously improve and work on that particular issue.

Mr. NUGENT. I appreciate that.

And my time has expired. I yield back.

Mr. ROGERS. I thank the gentleman.

General Harencak, haven't you all gone to a pass-fail now instead of 100 percent?

General HARENCAK. That is one issue, but there is many more that are going to address, what we believe, to do a blurring of the lines between training and evaluation. We believe in that particular career field it was all evaluation and very little training.

Mr. ROGERS. Okay.

The chair now recognizes Mr. Bridenstine for 5 minutes.

Mr. BRIDENSTINE. Thank you, Mr. Chairman.

Mr. Held, on March 24, Chairman Turner and I sent you a letter describing concerns with NNSA providing multiple integrated laser engagement systems, or MILES, to Russia. MILES is a force-on-force trainer, basically a high-tech laser tag system. And given Russia's invasion of Ukraine and occupation of Crimea, Mr. Turner and I believe that sending laser tag systems to Russia free of charge is wildly inappropriate. I have your response letter here, and I appreciate your very quick response. And I certainly appreciate your promise to cancel the MILES request. Very positive. And thank you for that.

However, there are some additional questions that your letter opened up. Despite canceling MILES, your agency is apparently still requesting $100 million for nonproliferation programs in Russia. And from our perspective, from my perspective, I will speak for myself, giving Moscow nonproliferation money, by doing that, we inadvertently subsidize Russia's nuclear force modernization. While our nuclear arsenal is atrophying, Russia continues to develop new ICBMs. They are constructing new ballistic missile submarines.

They are developing new strategic bombers, among other nuclear modernization efforts. Clearly, if Moscow has money to spend on its own nuclear forces, then it is quite capable of fulfilling its nonproliferation obligations without relying on the U.S. taxpayer. Russia reportedly completed a massive nuclear exercise last week. This exercise practiced offensive operations involving the simultaneous use of nuclear missiles in a bid to intimidate its neighbors. These are all open-source reports.

Mr. Held, we have a country that is modernizing its nuclear forces and exercising offensive strikes. We have a country that has invaded two of its neighbors, currently occupying South Ossetia and Abkhazia, and now Crimea. And so my question is doesn't this $100 million that you are still requesting directly contradict and undermine the Obama administration's stated policy of suspending military-to-military engagement with Russia?

Mr. HELD. Thank you, sir. Thank you for your letter. And we were happy to promptly positively respond to that letter. In this situation, it most certainly would have been inappropriate. There is, even during the Cold War, which I spent most of my career in, there was a long tradition of keeping nuclear security and arms control issues, we tried as much as possible to keep those buffered from the ups and downs of the overall strategic relationships. That is in our national interest as well as the Russians' national interest.

As you can imagine, in the current situation, the Secretary has issued guidance to we need to be very careful in reviewing all of these programs to assure that any money that we are spending over there is driven by U.S. national security interests, not Russian. And it is a very fluid situation.

Mr. BRIDENSTINE. Let me interrupt. I have only got a minute 30 left. Are you aware today there are news reports indicating that your deputy at NNSA, Anne Harrington, who is here today, stated that the U.S. is curtailing cooperative threat reduction with Russia?

Mr. HELD. I am aware of the news reports. The news reports were from Russia, and they were inaccurate. That is not what she said, according to the transcript of the meeting.

Mr. BRIDENSTINE. That is good to hear, that those are inaccurate reports.

Mr. HELD. Yes, sir.

Mr. BRIDENSTINE. Okay.

Mr. Chairman, I appreciate that. I yield back.

Mr. ROGERS. Great. I thank the gentleman.

Mr. Weber, the Nuclear Weapons Council, something we talked about in my office also, had to certify the fiscal year 2014 and 2015 budget for NNSA. Is the council satisfied with the NNSA's work in trying to achieve those efficiencies?

Secretary WEBER. Mr. Chairman, we were able—all of the members of the Nuclear Weapons Council were able to certify the budget. But in doing so, we recognize that there is risk. We were able to preserve the highest priorities, but we had to slip some programs, including the interoperable warhead one, the Long-range Stand-off Missile [LRSO]. And what is most important is that we go back to a situation where we can have long-term certainty and

stable funding. And with sequestration hanging over our heads in 2016, that puts a lot of stress on the priorities of the Nuclear Weapons Council.

Mr. ROGERS. So is DOD satisfied with NNSA and their effort on these efficiencies?

Secretary WEBER. We continue to work with our partners in NNSA to identify additional efficiencies and to keep that focus on delivering the life extension programs for our nuclear weapons. And I agree strongly with Acting Administrator Bruce Held that the tone of our partnership is very good at the leadership level. We talk frequently and in a very civilized manner. These are common problems that we have to work on together.

Mr. ROGERS. So is DOD satisfied with their progress on these efficiencies? I know you want to keep a positive tone, but it is either yes or no.

Secretary WEBER. We have made progress.

Mr. ROGERS. Make it a positive yes or no.

Secretary WEBER. We are not fully satisfied, and believe there are more opportunities for increased efficiencies.

Mr. ROGERS. That is a very positive no.

Mr. Held, are you satisfied—never mind. What efficiencies specifically are you going after in fiscal year 2015, and how much do you think you will be able to save?

Mr. HELD. Yes, sir. They are, on pure management efficiencies—there are two streams, management efficiencies and workforce prioritization. That is part of the CAPE study. On the management efficiencies, our target for fiscal year 2014 was $80 million. Our target for fiscal year 2015 is $163 million. And the target across the FYNSP [Future Years Nuclear Security Plan] is $1.3 billion. For fiscal year 2014, we will not only meet, we will beat the $80 million target. For fiscal year 2015, we look like we are not only going to meet, but we look like we will beat it. And so now we are actually projecting out to the fiscal year 2016 efficiencies. So those are real efficiencies, where we are getting mission effectiveness at greater cost-effectiveness—cost-efficiency.

On the workforce prioritization, however, this is where we have a little bit of a difference, is essentially the argument of the workforce prioritization is—and that is $1.5 billion over the 5-year FYNSP. What that calls for is a 25 percent shift of the workforce from what would be—what was classed as lower priority work to higher priority work. And so what we did, NNSA did two studies, one internal, one external. And really what that involves is shifting workforce from certification of the stockpile and dismantlement to life extension programs. Sir, we don't believe that is a simple budgetary exercise. We think that is a major policy decision. And so to the extent that there is a collegial debate, it goes to that question. But let me assure you, back to the original thing, in terms of continuous improvement, we are committed to that.

Mr. ROGERS. Will you get those specifics reduced to writing and submit them?

Mr. HELD. You bet. You bet.

[The information referred to can be found in the Appendix on page 159.]

Mr. ROGERS. Great.

And finally, Dr. Winokur, Congress has been trying to get your organization an inspector general for over 2 years now. I understand that you met with leaders of the Nuclear Regulatory Commission's Inspector General [IG] yesterday. And I also heard that the IG and you disagree on how it should carry out its work. My question is will you assure this subcommittee that you and your organization will fully cooperate with the IG and provide the information, access, and resources the IG needs to carry out its job?

Dr. WINOKUR. Mr. Chairman, the Board did meet with the inspector general yesterday. I think it was a very productive meeting. The inspector general will brief at an all-hands meeting all the Board staff on Friday. And I can assure you that the Board and the inspector general will work together effectively and efficiently. I don't see any disagreements at this time between the Board and the inspector general. I have heard that there was some of these discussions on the Hill. Quite frankly, sir, I don't believe there is any validity to any of those comments. The Board and the inspector general will work together effectively. We understand their role very well. And we are very confident we will be able to work with them.

Mr. ROGERS. That is the correct answer.

Dr. WINOKUR. And you have my assurance.

Mr. ROGERS. All right. Thank you, sir.

The chair now recognizes the ranking member for any further questions he may have.

Mr. COOPER. Thank you, Mr. Chairman.

A question on nonproliferation. The Defense Science Board in January issued a report that had a number of very disturbing sentences in it. Let me read two. "In short, for the first time since the early decades of the nuclear era, the Nation needs to be equally concerned about both vertical proliferation and horizontal proliferation. These factors and others more fully discussed in the report led the task force to observe that monitoring for proliferation should be a top national security objective, but one for which the Nation is not yet organized or fully equipped to address." To any of the panelists, what should we be doing about this to meet the warning of the Defense Science Board?

Mr. HELD. Sir, I think, if I may initially, I think we would agree with the Defense Science Board. I think we need to—and it is part of our budgetary process—we need to step back and see what is the strategic path ahead of us on these issues. We have asked—or one of the committees has asked GAO to look into this as well, which we are really looking forward to helping that. And the Secretary has asked the Secretary of Energy Advisory Board to look into these things as well.

What is the right strategic path? We have had success over the past 4 years. We are in a different budgetary environment. We are in a different strategic environment. What is the good strategy, the right strategy? Do we need to tweak it? And how do we need to proceed? We do not know the answers to that right at the moment, but we do agree with the need to ask the questions, though.

Mr. COOPER. Thank you, Mr. Chairman.

Mr. ROGERS. Thank the gentleman.

The chair now recognizes the gentleman from Arizona, Mr. Franks, for 5 minutes.

Mr. FRANKS. Thank you, Mr. Chairman.

Thank all of you for being here. Always grateful to the people that are out trying to look out for the best interests of freedom, and especially the United States.

Ms. Bunn, last week, the New York Times reported that General Breedlove, our Supreme Allied Commander, a great man, in my estimation, described Russia's violation of the INF treaty as a, quote, "military significant development." He elaborated, he said, "A weapons capability that violates the INF that is introduced into the greater European land mass is absolutely a tool that will have to be dealt with. It cannot go unanswered," close quote.

So this, again, the Supreme Allied Commander responsible for prosecuting any conflict or potential conflict in Europe is saying that this changes his military calculus. So my question is, has your office or OSD Policy provided guidance to General Breedlove on this potential violation of the INF and on how to adjust defense postures, what to say to NATO allies, and what the policy implications are for further arms control with Russia?

Ms. BUNN. Congressman Franks, General Breedlove is a very good general. I would agree with you there. A lot of respect for him. Our careers have passed many times. He is dealing with a lot of tough problems right now. As we discussed a few minutes ago, we are looking at a lot of options with regard to Russia. If there were, if they deployed something like you described, we would have to—there are some things we would need to do. There is assessment going on right now in the U.S. Government. And that is, as I said before, that is about as far as I would feel comfortable going in open session.

Mr. FRANKS. I understand. General Breedlove is someone I have a lot of personal gratitude and affection for. He actually took me up in an F–16 and did a 360 over the Goldwater Range. And you got to really trust a guy to do that.

Admiral Richardson, it was certainly great meeting you last year and hearing about the significance of your mission. Could you describe to us the impacts to the Naval Reactors program after the cuts that you took in fiscal year 2014 from the levels that you requested? How have you tried to mitigate those effects—the effects of those cuts I should say? And what are the costs and schedule impacts to the Navy if the spent fuel handling facility project is not funded appropriately in fiscal year 2015?

Admiral RICHARDSON. Sir, thank you for that question. I will start with the spent fuel handling facility, if I could. That was one of the areas where our appropriation was below our request by about $50 million. And additionally, we did not get the new start authority. So that project was put on hold, delaying another year of funding and 2 years in execution. And to put simply, it is costing the country more to delay this facility than it is to just get on with building it. So, for instance, last year, it was a $50 million decrease between our request and our appropriation. That is going to cost about $300 million to $350 million to recover. Each year that we delay this is another $100 million to $150 million to the Nation. That cost is spent on constructing temporary storage containers for

the spent nuclear fuel that comes off of aircraft carriers. That fuel is—those aircraft carriers are being refueled on a heel-to-toe basis down in Virginia. We feel it is a national strategic priority to get those carriers turned around and back to sea as quickly as possible. And so to accommodate that fuel, we are building temporary storage containers until we can get that facility online. And so appreciate very much this subcommittee's support for our work there to build that new facility.

With respect to the other cuts from the 2014 request, about $100 million was applied to my operating and infrastructure budget. It is a 23 percent funding cut. That is the budget I use to basically maintain and operate my labs, my technical support base. By virtue of the cuts of that year, two major concerns that I have right now. One is that by virtue of that funding cut, we were unable to purchase a high performance computer. That computer was going to be applied to progress the design for the *Ohio* replacement class submarine reactor plant. As I stand right now, I am 6 months behind in that by virtue of being unable to purchase that computer. I can most likely recover that if I am funded in 2015. And so that is my mitigation. I will reprioritize work. That is a national strategic priority, our number one priority as well. And I can do that. But it comes at a cost to that other work.

Additionally, there was only sufficient funding to perform required maintenance to one of my two training and research reactors in New York. And so we had to commit to one or the other. Pending any relief, I am going to have to shut down one of the training reactors as fiscal year 2015 starts. That will result in, at minimum, 450 operators that will not be trained and sent to the fleet, incurring additional stress on the operating force out there. And then that number only goes up until I can secure that funding and get back on track, sir.

Mr. FRANKS. Thank you.

And thank you, Mr. Chairman, very much.

Mr. ROGERS. Thank the gentleman.

The chair now recognizes Mr. Garamendi for 5 minutes.

Mr. GARAMENDI. Mr. Chairman, thank you for this hearing. This is really important. And I really appreciate it. There is about 20 hours of questions that I have, but I will take my remaining 3 minutes—4 minutes and 15 seconds.

Admiral, you were just talking about the spent fuel at your facility and about some method of disposing of it. Could you just expand on that quickly and tell us how you propose to permanently dispose of the spent nuclear fuel from the Naval Reactors?

Admiral RICHARDSON. Sir, I will just describe our process up there. So we take our spent fuel from both our submarines and our aircraft carriers. We process it off the ships at the shipyards where they come in. All of that spent fuel gets sent to my Naval Reactors facility in eastern Idaho, on the Idaho National Lab. That fuel is processed through a pool where we store the fuel until it can then be safely taken out of that pool and placed into dry storage. And that is currently how we process it right now, sir.

Mr. GARAMENDI. You said the dry storage remains the permanent disposal?

Admiral RICHARDSON. Well, right now, pending a national repository, we maintain that fuel in dry storage at our site in Idaho.

Mr. GARAMENDI. Have you ever heard of the IFR program?

Admiral RICHARDSON. No, sir.

Mr. GARAMENDI. Integral Fast Reactor.

Admiral RICHARDSON. I have heard of it, but I am not conversant on it.

Mr. GARAMENDI. You realize we spent $10 billion figuring out how to dispose of this stuff, and figured it out, and then mothballed it? Are you aware of that?

Admiral RICHARDSON. I am not.

Mr. GARAMENDI. Are you any of you aware of this? Question. All of you. Integral Fast Reactor. Oh, my God. Okay. We got a problem, gentlemen and lady.

Next time you are here I am going to ask you the same question, have you ever heard of the IFR, the Integral Fast Reactor? And I hope to have an answer that "I have heard of it, and I know exactly what it is." It is a fast reactor that was specifically designed by the United States Government to dispose of the highly enriched—excuse me—of the spent nuclear fuels from all of your programs. And it worked. It operated for some 10 years—actually, longer than that. But I am not going to go into a lesson here, but I expect you to know about it the next time you come before this committee.

It also happens to be the PRISM reactor that is being discussed in Moscow and in the United Kingdom to dispose of their plutonium.

A couple of other questions.

Excuse me, that was shocking.

Dr. Winokur, what are the top concerns that you have not yet expressed to this committee about the safety of the nuclear enterprise?

Dr. WINOKUR. Well, I think the top concerns from my perspective right now is this gap between this aging infrastructure, which is 50, 60, 70 years old, that requires a lot of oversight and care, and we have to monitor and finally determine when it can continue to operate in a safe and reliable fashion and when new replacement facilities or alternative strategies for plutonium and uranium are going to come online. That gap is becoming increasingly a concern.

Another area where I have concerns, as I said before, formality of operations. The Board wrote a recommendation on safety culture. I think formality of operations is one of the better measures of safety culture. And we don't right now see—we see some improvements by the Department, but a lot more has to happen in the operational space to have confidence. One area to me, Congressman, that is incredibly important is contractor assurance systems. In the final analysis, the contractors have to be able to get the job done. There are a lot more of them. I mean, there is always going to be a need for Federal oversight and the Board's independent oversight. But the contractors have to get the job done. These contractor assurance systems, in my opinion, are not improving, not maturing the way they need to. And they have to in the long run. The government has to depend upon those contractors. There will be oversight, but that has to happen.

And then, finally, the thing I am concerned about is the fact that accidents do happen. And we really do need to learn better lessons from Fukushima. I still think there is a sense in the complex that these accidents won't happen. But I think the job of the Board and the job of the Department is to make sure they are prepared for what I always refer to as the low-probability, high-consequence accident. How to be ready for that. It can happen. It will happen. And these sites are very, very complicated. And there are many different facilities and many different operations, and a lot of things can go wrong. So it is going to require a lot of drilling, a lot of planning, and a lot of coordination.

Mr. GARAMENDI. You are talking here specifically about the military reactors, military programs, not the commercial. Or are you talking about both?

Dr. WINOKUR. No, I am talking about the defense nuclear facilities under the jurisdiction of the Board, not commercial.

Mr. GARAMENDI. Yield back.

Mr. ROGERS. Thank the gentleman.

The chair now recognizes Mr. Bridenstine for any more questions he might have.

Mr. BRIDENSTINE. Yes. Mr. Held, I just wanted to follow up with the question I asked earlier about the $100 million for nonproliferation programs. All of us believe in nonproliferation. I wanted to get insight. When we talk about, you know, basically subsidizing, if you will, Russian military modernization, especially nuclear modernization, ICBMs, strategic bombers, ballistic missile submarines, when we talk about what they are doing within their nuclear modernization programs, including violating the INF, and while they are doing this, we are in essence subsidizing the security of their current nuclear capabilities, at some point, we as Americans have to make a decision that we are subsidizing their nuclear modernization program, and we got to stop spending it.

I am going to ask Chairman Rogers that when we do the mark that we really look hard at this $100 million that it seems your agency is requesting. I was wondering if you could give us your insight as to at what point do we make a decision that we are inappropriately subsidizing Russian nuclear modernization?

Mr. HELD. So thank you for the question. Very important question. Things have changed pretty considerably since we built this budget request. And so I think we need to look at this in a very clear-eyed fashion. We welcome the committee's interest in this, and welcome dialogue on this. I would suggest that we are in the business of U.S. national security, not in subsidizing the Russians one way or the other. Our responsibility, the responsibility of everybody at this table, and yours as well, is U.S. national security. And so if that money is judged not to be serving those interests, then we shouldn't pursue it. And I look forward to talking to you about this issue over the time. It is a very fluid situation.

Mr. BRIDENSTINE. Thank you, Mr. Held.

Mr. Chairman, I yield back.

Mr. ROGERS. Thank the gentleman.

I thank the witnesses. A very productive hearing. And I do thank all of you for your service to our country. And I appreciate your

preparing for this hearing and making yourself available. I would remind you that the record will be left open for 10 days.

If any Members who could not make it to the hearing have questions, or those who are here just couldn't get their questions in and they submit them to you, I would ask you to provide a response in a timely manner.

And with that, this hearing is adjourned.

[Whereupon, at 5:15 p.m., the subcommittee was adjourned.]

A P P E N D I X

APRIL 8, 2014

PREPARED STATEMENTS SUBMITTED FOR THE RECORD

APRIL 8, 2014

Opening Remarks – As Prepared for Delivery

The Honorable Mike Rogers
Chairman, Subcommittee on Strategic Forces
House Armed Services Committee

Hearing on the "Fiscal Year 2015 Budget Request for Atomic Energy Defense Activities and Nuclear Forces Programs"

April 8, 2014

Good afternoon. The subcommittee will come to order.

Welcome to our hearing on the President's Fiscal Year 2015 budget request for Atomic Energy Defense Activities at the Department of Energy and nuclear forces programs at the Department of Defense.

I want to thank our witnesses for being here today. We have a very crowded witness table because we have a lot of ground to cover in this hearing. Our distinguished witnesses are:

- **The Honorable Andrew Weber**
  Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs
  U.S. Department of Defense
- **Ms. Elaine Bunn**
  Deputy Assistant Secretary of Defense for Nuclear and Missile Defense Policy
  U.S. Department of Defense
- **Vice Admiral Terry Benedict**
  Director, Strategic Systems Programs
  U.S. Navy
- **Major General Garrett Harencak**
  Assistant Chief of Staff for Strategic Deterrence and Nuclear Integration
  U.S. Air Force
- **Mr. Bruce Held**
  Acting Administrator and Acting Undersecretary for Nuclear Security
  National Nuclear Security Administration
- **Admiral John Richardson**
  Director, Naval Nuclear Propulsion Program
  U.S. Navy and National Nuclear Security Administration
- **Mr. David Huizenga**
  Senior Advisor for Environmental Management
  U.S. Department of Energy
- **Dr. Peter Winokur**
  Chairman
  Defense Nuclear Facilities Safety Board

I appreciate you taking the time to prepare for this hearing, and we always appreciate the contributions you each make to the nation.

Before I hand the floor over to the Ranking Member, let me highlight just a few of the issues to which we're paying close attention.

First, today, two years late, we have finally received the Administration's proposed nuclear force structure under New START. I am glad to see the President made the right decision—the decision that was obvious to us two years ago. We'll take a hard look at this in the coming weeks and will discuss it today I'm sure.

Second, governance and management at DOE and NNSA. We had a hearing two weeks ago to receive the interim report of the congressional advisory panel on this topic. It was sobering, and it confirmed what this subcommittee has been after for many years. We had 13 Members show up at that hearing—I hope that shows just how serious we're taking this. We're as serious as a heart attack and we want to see some bold solutions.

Third, promised capabilities and programs keep slipping—despite significant budget increases. Fulfilment of the requirement for a "responsive" nuclear infrastructure keeps being pushed into distant future, and we've wasted billions of dollars on false-starts. The follow-on to the air launched cruise missile is pushed and may put both the nuclear security enterprise and Strategic Command in a real bind. The interoperable warhead, a key pillar of the Administration's future stockpile strategy, has been pushed out of sight on the calendar.

Fourth, integrity and leadership problems in our nuclear forces. General Harencak and Admiral Richardson, we appreciate the updates you and your Services have been providing us. The Services need to get on top of this. In particular, the Air Force needs to take a long hard look at itself and how it is leading and managing its nuclear forces. Recent actions give us hope, but they must only be a start.

Let me end on a bright note: the B61 Life Extension Program, which many on this subcommittee and many at that witness table have fought to get on track, is succeeding. NNSA and the Air Force are on schedule, on budget, and delivering for the nation. Good work. This is an important first step in rebuilding trust and confidence with Congress, the American people, and our allies.

Thank you again to our witnesses—I look forward to the discussion.

With that, let me turn to our ranking member for any statement he would like to make.

# # #

Not for Public Release until Approved by the
House Armed Services Committee

Statement of Mr. Andrew Weber
Assistant Secretary of Defense for
Nuclear, Chemical, and Biological
Defense Programs

On

Fiscal Year 2015 Budget Request for
Atomic Energy Defense Activities and Nuclear Forces Programs

Before the
Strategic Forces Subcommittee
Committee on Armed Services
U.S. House of Representatives

April 8, 2014

Introduction

Chairman Rogers, Ranking Member Cooper, and members of the Subcommittee, thank you for giving me the opportunity to testify regarding U.S. nuclear forces. It gives me great pleasure to join Acting Administrator Held, Admiral Richardson, Admiral Benedict, General Harencak, Deputy Assistant Secretary Bunn, Acting Assistant Secretary Huizenga, and Chairman Winokur to discuss these vital topics.

I have the privilege of serving as the Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs (NCB), as well as the Nuclear Weapons Council (NWC) Staff Director. In this capacity, I am the principal advisor to the Secretary of Defense, Deputy Secretary of Defense, and the Under Secretary of Defense for Acquisition, Technology and Logistics (AT&L) for nuclear matters. AT&L plays a key role in managing the U.S. nuclear deterrent and leading the Department's efforts to acquire the strategic delivery systems for nuclear weapons in order to meet the operational needs of our armed forces. Chief among my responsibilities are the missions of providing the United States and its allies with a safe, secure, and effective nuclear deterrent.

My testimony will focus on the Department of Defense's (DoD) work with the Department of Energy (DOE)/National Nuclear Security Administration (NNSA), to ensure that the United States continues to maintain a safe, secure, and effective nuclear deterrent. The partnership between the Departments is marked by extensive collaboration and a shared commitment to the Nation's security. Today's fiscal uncertainty presents challenges to the weapon and infrastructure modernization programs that are vital to our nuclear weapons complex. To ensure the continued credibility of our nuclear deterrent, it is essential that Congress supports the President's FY 2015 budget request for nuclear weapons activities executed by DoD and NNSA. This request includes funds to ensure a safe and effective stockpile, to modernize the nuclear infrastructure, and to upgrade ballistic missile and bomber delivery systems. Today, I would like to share with you the progress the NWC has made in ensuring our two Departments achieve their goals, and our collective approach to accomplishing these objectives in the coming year.

Over the past year, the NWC met monthly to focus attention on the most pressing challenges facing the nuclear weapons enterprise. These challenges include managing life extension of warheads in the U.S. nuclear stockpile, modernization of the nuclear infrastructure that supports the stockpile, and modernization or replacement of DoD's nuclear delivery platforms. The vital aspect to these discussions has been the NWC's focus on prioritizing and balancing the necessary work that our budget, aging infrastructure, and highly skilled workforce can support.

Sufficient and timely funding for the enterprise remains a critical challenge for the NWC. The Council has worked hard to align resources, plans, and requirements. The NWC performed extensive cost assessments and leveraged other programmatic expertise to ensure the NNSA and DoD budget requests reflect the most urgent priorities of the nuclear weapons enterprise. This exercise illustrates a much greater level of collaboration between the two Departments and an updated review of the many demands our aging enterprise requires.

A Path Forward for a New U.S. Nuclear Posture

Reversing decades of neglect and addressing the aging nuclear enterprise continues to be a priority for the NWC. We must ensure that the infrastructure, capabilities, and critical skills needed to support the nuclear deterrent are maintained over the long term. The NWC has reviewed its long-term stockpile strategy in response to the overlap of multiple life extension programs, competing requirements, higher-than-anticipated program costs, and a constrained fiscal environment. The work of the Council has identified the enterprise's most pressing priorities and addressed means to ensure that both DoD and DOE are prepared to execute these critical modernization programs.

DoD Stockpile and Platform Requirements

The NWC stockpile strategy—the "3 + 2 Strategy"—when fully implemented, is designed to reduce both the number and types of weapons in our future arsenal. DoD and NNSA are moving forward with several weapon systems Life Extension Programs in FY 2014 to support long-term deterrent capabilities. The B61-12 and W76-1 LEPs are the most critical Life Extension

Programs to our stockpile, and NNSA and the Air Force request funding these LEPs in FY 2015. Given fiscal challenges, the NWC agreed that slipping further the W78/88-1 interoperable warheads and W88 submarine-launched ballistic missile alteration created manageable risk while allowing resources to continue to support the B61-12 and W76-1 LEPs. These decisions allow us to meet Air Force and Navy requirements while more efficiently managing annual costs among our various programs.

The W76-1 LEP is on schedule to meet its production requirements by FY 2019.

For the bomber leg of the Triad, DoD requires life extension of the B61 gravity bomb. The B61 models 3 and 4 non-strategic bombs are deployed with NATO dual capable aircraft to provide U.S. extended deterrence to our Allies. The B61 models 7 and 11 strategic bombs are carried by the B-2 bomber and are an essential component of air-delivered strategic deterrence. In April 2010, the Nuclear Posture Review reaffirmed both the extended and strategic deterrent roles of the B61 and directed proceeding with its full-scope life extension. The result will be a single bomb, termed the B61 model 12, which will replace four types of the B61—one strategic and three non-strategic—further promoting efficiencies and minimizing costs. In addition, the B61-12 will enable the retirement of the B83-1, the last megaton weapon in the U.S. nuclear arsenal.

The B61-12 is currently in Phase 6.3, *Development Engineering* and is on schedule for the 2014 milestones. We have worked successfully to ensure that the development of DoD-provided hardware, in this case, a tail kit, is on track. The Air Force has funded both the tail kit development and production to synchronize with NNSA needs. Due to sequestration impacts, the overall LEP schedule has been revised for DOE/NNSA to complete the first production unit by second quarter FY 2020. This first production unit date will just meet U.S. Strategic Command's requirements and also critical U.S. commitments to our NATO allies to sustain their non-strategic nuclear capabilities and to provide extended deterrence to our partners.

The NWC continues to plan efforts for an Air-Launched Cruise Missile replacement—the Long Range Stand-off cruise missile. The NWC currently supports the Air Force's need for a

replacement cruise missile, and the DoD and NNSA are working closely to align the warhead and a missile programs.

In response to the Nuclear Posture Review's guidance to maintain a triad, DoD has a robust plan for recapitalizing the ICBMs, SLBMs, and nuclear-capable heavy bombers that support our nuclear deterrent. In FY 2015, DoD will continue to fund the Ohio class replacement submarine and Trident II D-5 missile, the follow-on capability to the Minuteman III ICBM, upgrades to the B-2 and B-52H heavy bombers, and development of a Long Range Stand-off missile to replace the current air-launched cruise missile. We are working closely with the Services to ensure our Ohio class submarines, D-5 missile, ICBMs, and bombers remain on line until follow-on or life extension programs are in place. Additionally, DoD is developing options to meet its extended deterrence commitments to allies with the F-35 Joint Strike Fighter and making sure that the life-extended B61 bomb is compatible with the aircraft.

Maintaining Fiscal Prudency and Revitalizing the Nuclear Infrastructure

An effective strategic deterrent consists of more than nuclear weapons and their delivery platforms. It also requires an infrastructure to provide agile research and development and manufacturing capabilities. A responsive infrastructure will provide the United States with capabilities to address technical problems in the stockpile, or future adverse geopolitical challenges, with a substantially smaller stockpile than today's. Continuing to recapitalize the Nation's nuclear infrastructure will require sustained investments. The Departments of Defense and Energy share a common path forward to accomplish this task in a responsible, fiscally prudent manner.

To support a future responsive infrastructure, the Department of Defense Office of Cost Assessment and Program Evaluation (CAPE) and NNSA collaborated on a joint review of NNSA's plutonium pit production strategy to achieve cost-savings. We believe this strategy, which couples repurposed existing facilities with new scalable facilities, is a prudent means to respond to geopolitical or technical surprise, and to allow reductions in hedge weapons. To support NNSA's plutonium strategy, the NWC has fully supported NNSA's efforts to reprogram

$120 million in FY12 funds to begin repurposing existing infrastructure. This reprogramming would support the transition of high hazard work out of the current Chemistry and Metallurgy Research facility to other existing facilities, ultimately initiating the three-part plutonium strategy. In September 2013, partial approval and conditions received from a congressional subcommittee enabled $43.3 million to transfer capabilities. The approval of the remaining $76.7 million in reprogramming funds is essential to preparing existing facilities for repurposing. The DoD encourages Congress to approving the remaining reprogramming to support this critical national capability.

In light of findings for plutonium pit production, CAPE applied its methodology to the Nation's need for a uranium processing capability replacement. As with any major systems acquisition program, building large, one-of-a-kind nuclear facilities presents significant challenges in terms of planning, design, and development—one of our principal requirements in today's fiscally constrained environment is to control costs.

Revitalizing our Structures

In January, I joined Secretary Hagel in visiting F.E. Warren and Kirtland Air Force Bases and Sandia National Laboratories in Albuquerque, New Mexico. It was a privilege to observe the daily professionalism of airmen, sailors, and laboratory personnel who ensure a safe, secure, and effective nuclear deterrent. Over the last year, several personnel concerns have received the highest levels of DoD attention, and the Secretary of Defense has directed an internal and external review of these issues. This comprehensive review will examine the nuclear mission in the Departments of Navy and Air Force regarding personnel, training, testing, oversight, mission performance, and investment and will provide short- and long-term recommendations by April 30, 2014.

Within the weapons program, DoD has provided input to the Congressional Advisory Panel on the nuclear security enterprise as directed by section 3166 of the FY 2013 National Defense Authorization Act. We look forward to the recommendations this panel will provide on how to

achieve the most efficient governance structure to meet DoD weapons requirements and to protect the taxpayer.

Efforts to Counter Nuclear Threats

Finally, I want to highlight DoD's efforts to counter nuclear threats, including those efforts that help ensure that terrorists and proliferators cannot access nuclear materials and expertise abroad. During the preceding decade, there has been valuable collaboration on this goal at the federal level. President Obama has called nuclear weapons in the hands of terrorists "the single biggest threat to U.S. security." As President Obama pointed out, just one nuclear weapon detonated in an American city would devastate "our very way of life" and represent a "catastrophe for the world." For this reason, this Administration has outlined a series of policies that reflect the gravity of this threat, and the interagency has made significant improvements in working to prevent, and prepare mitigation actions for, catastrophic nuclear events.

One of DoD's priorities is to "internationalize" the response to the nuclear terrorism threat. The United States has been aggressive in its threat reduction efforts, but it cannot meet this challenge alone. In President Obama's view, there is a pressing need to "deepen our cooperation and to strengthen the institutions and partnerships that help prevent nuclear materials from ever falling into the hands of terrorists." To this end, with our NNSA and other interagency partners, we are expanding nuclear counterterrorism and threat reduction cooperation with two of our closest allies, the UK and France, building on all three countries' technical expertise and history of cooperation. At the 2012 Nuclear Security Summit in Seoul, the three governments released a joint statement pledging cooperation and assistance to others facing nuclear terrorism threats. However, this work cannot be limited to a handful of countries. For this reason, we have made building international partnership capacity a high priority.

Last month, the third Nuclear Security Summit was held in The Hague, Netherlands. This gathering brought together leaders from 53 countries and four international organizations to address measures to combat the threat of nuclear terrorism, protect nuclear materials, and prevent the illicit trafficking of nuclear materials. First introduced by President Obama in Prague in

2009, the Summit process formally began in Washington, DC, in 2010 and endorsed the President's call for an international effort to secure all vulnerable fissionable materials worldwide. The U.S. has contributed to this global effort through an interagency strategy to eliminate as much material as practicable and ensure that all remaining sites are secured at least to the guidelines set forth by the International Atomic Energy Agency. DoD has supported this effort by working to secure weapons-usable nuclear material in Russia and Kazakhstan to and by working with our colleagues at NNSA to assist China, India, and Kazakhstan establish their nuclear security training centers. Ensuring that all nuclear material remains secure is the first priority, but there are also critical efforts underway to address the risks of lost or stolen nuclear material and build capacity for responding to incidents involving nuclear material. DoD contributes to these activities by building partner capacity in detection, interdiction, border security, and emergency response. Although more than four years have passed since the President's call for increased focus in this area our work isn't done; nuclear security is an enduring responsibility as long as nuclear materials exist.

On the domestic front, the Nuclear Weapons Accident/Incident Exercise program focuses on exercising a whole of government response to a U.S. nuclear weapon accident or incident. This full-scale national-level exercise program is led on a rotating basis by the Air Force, Navy, and DOE/NNSA and addresses terrorist driven events, in addition to those not caused by malevolent actions. Last May we successfully conducted the largest exercise in the program's history at Malmstrom Air Force Base, with over 1,200 participants from departments and agencies at the federal, state, and local level. DOE/NNSA led the latest iteration last week. The work that DoD, DOE/NNSA, and the FBI, as well as other partners, have put into this program over the last several years has led to stronger ties and enhanced collaboration. We look forward to continuing these efforts so that we can be prepared if an unlikely, but potentially catastrophic, incident were to occur.

Conclusion

The nuclear threat to the United States has evolved considerably since the end of the Cold War. No longer does the threat of a large-scale nuclear exchange hover constantly over the world.

Yet, we cannot afford to be complacent. We must continue to field a strong nuclear deterrent that is supported by an agile and responsive infrastructure and valued workforce, and we must continue to carry out the threat reduction and nonproliferation activities that help to prevent nuclear terrorist threats. The Department of Defense remains committed to its vital partnership with DOE and Congress in meeting the Nation's most fundamental security needs. In closing, I respectfully ask for your support for the President's FY 2015 budget request. This will ensure that we are fully capable of providing safety and security to the American people.

Andrew C. Weber

Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs

The Honorable Andrew C. Weber is the principal advisor to the Secretary of Defense, the Deputy Secretary of Defense, and the Under Secretary of Defense for Acquisition, Technology and Logistics for matters concerning nuclear, chemical, and biological defense programs (NCB). The NCB mission is to prevent, protect against, and respond to these global threats. Mr. Weber is the Staff Director of the Nuclear Weapons Council, which manages the nuclear weapons stockpile, and he oversees the Defense Threat Reduction Agency and the Nunn-Lugar Cooperative Threat Reduction Program.

Since taking office, Mr. Weber has overseen an expansion of Nunn-Lugar programs into new regions, including the Middle East, Africa and the Asia-Pacific. The program has supported the elimination of chemical weapons in Libya and Syria. He has also focused on reform of the nation's biodefense enterprise. His nuclear duties include executing President Obama's direction to ensure a safe, secure, and effective nuclear weapons stockpile, and to prevent nuclear terrorism.

Prior to his appointment by President Obama, Mr. Weber served for 13 years as an Adviser for Threat Reduction Policy in the Office of the Secretary of Defense. He played a key role in Nunn-Lugar operations to remove weapons grade uranium from Kazakhstan and Georgia, and nuclear capable MiG-29 aircraft from Moldova. Mr. Weber also developed and oversaw the Department of Defense Biological Threat Reduction Program.

Most of Mr. Weber's 28 years of public service have been dedicated to reducing the threat of weapons of mass destruction proliferation and terrorism. He served previously as a United States Foreign Service Officer, with diplomatic assignments in Saudi Arabia, Germany, Kazakhstan, and Hong Kong.

From 2002 through 2008 Mr. Weber taught a course on Force & Diplomacy at the Edmund A. Walsh Graduate School of Foreign Service at Georgetown University. He has a Master of Science in Foreign Service degree from Georgetown and is a graduate of Cornell University. Mr. Weber speaks Russian and is a member of the Council on Foreign Relations.

You can follow Mr. Weber on Twitter @AndyWeberNCB.

STATEMENT OF

M. ELAINE BUNN
DEPUTY ASSISTANT SECRETARY OF DEFENSE
NUCLEAR AND MISSILE DEFENSE POLICY

BEFORE THE HOUSE
COMMITTEE ON ARMED SERVICES
SUBCOMMITTEE ON STRATEGIC FORCES

APRIL 8, 2014

NOT FOR DISTRIBUTION UNTIL RELEASED BY
THE HOUSE ARMED SERVICES COMMITTEE

Chairman Rogers, Ranking Member Cooper, distinguished members of the Strategic Forces Subcommittee, thank you for the opportunity to testify for the first time on our nuclear forces and the Defense Authorization Request for Fiscal Year 2015 and Future Years Defense Program. Let me first start by thanking this committee for your continued support of the nuclear forces and the nuclear enterprise.

Translating the goals of "sustainment" and "deterrence" into effective plans and capabilities is more than a little challenging, as this Committee knows quite well. U.S. policies and programs concerning nuclear weapons have to reflect considerations that range far beyond the purely military, because the weapons, their deployment and posture, and what we say about them can entail issues of foreign policy, diplomacy, intelligence, science and technology, and homeland security, for example.

We want an arsenal that contributes to effective deterrence. We want an arsenal that is kept qualitatively up to date, that is survivable and flexible but that is no larger than necessary to meet our national security needs. And we want an arsenal that is an effective deterrent against the advent of regional nuclear powers whose intentions and decision processes are far from transparent. But most of all we want an arsenal that is safe, secure, and effective, and that will contribute to deterrence as long as nuclear weapons exist.

The path to accomplishing these goals will necessarily be adapted as required based on changes in the strategic environment and the financial and technical resources available. But there are two principal, mutually supporting components to our efforts. The first is working to ensure that this and future Presidents have suitable options for deterring, responding to, and managing a diverse range of 21st century security challenges. The second is working constantly with our allies to ensure continuing confidence in our shared national security goals, including

assurance in our extended nuclear deterrence posture, and strengthening strategic stability with Russia and China.

STRENGTHENING THE PRESIDENT'S OPTIONS

Since 2010, we have made significant progress in strengthening the President's options for deterring, responding to, and managing 21st century security challenges. Deterrence is not limited solely to nuclear weapons. Non-nuclear strategic capabilities, such as ballistic missile defenses and investments in a capability for conventional prompt strike systems, play an important role in our strategic posture; however, they are not substitutes for our nuclear forces.

New Nuclear Employment Strategy: With regard to policy, the most significant development since the Nuclear Posture Review and the entry into force of the New START Treaty is the nuclear employment guidance issued by the President last June. This new Nuclear Employment Strategy was the culmination of an 18-month effort that reviewed U.S. nuclear deterrence requirements, developed a range of nuclear employment strategy options, and analyzed potential implications of each strategy option for U.S. nuclear force requirements and achieving U.S. and allied objectives if deterrence fails.

Both an unclassified and classified report on this guidance were provided to Congress in June 2013 and subsequent classified briefings have gone into greater detail. There are five important aspects of the new employment strategy:

- It affirms that the fundamental purpose of nuclear weapons remains to deter nuclear attack on the United States and our allies and partners. The United States will maintain a credible deterrent, capable of convincing any potential adversary that the adverse

consequences of attacking the United States or our allies and partners far outweigh any potential benefit they may seek to gain through an attack.

- It affirms that the United States will only consider the use of nuclear weapons in extreme circumstances to defend the vital interests of the United States or its allies and partners. The guidance narrows U.S. nuclear strategy by directing that planning should focus on only those objectives and missions that are necessary in the 21st century, including deterring nuclear use in escalating regional conflicts. The regional deterrence challenge may be the "least unlikely" of the nuclear scenarios for which the United States must prepare, and continuing to enhance our planning and options for addressing it is at the heart of aligning U.S. nuclear employment policy and plans with today's strategic environment.
- At the completion of the study, the President determined that we can ensure the security of the United States and our allies and partners and maintain a strong and credible strategic deterrent while safely pursuing up to a one-third reduction in deployed strategic nuclear weapons from the level established in the New START Treaty. The President indicated in his Berlin speech that the Administration would pursue such reductions through negotiations with Russia.
- The Nuclear Employment Strategy reaffirms our commitment to a safe, secure, and effective arsenal, that the United States will maintain the nuclear Triad, and that U.S. nuclear forces will continue to operate on a day-to-day basis that maintains strategic stability with Russia and China, deters potential regional aggressors, and assures U.S. Allies and partners.

- It adopts an alternative approach to hedging against technical or geopolitical risk, which could lead to future reductions in the non-deployed nuclear weapon stockpile. The United States is investing in a more modern, responsive infrastructure; however, modernizing this infrastructure will take at least a decade or more to achieve.

Sustaining and Modernizing Nuclear Forces: We have analyzed the different types of adversaries we must deter and the range of scenarios for which we must prepare, and we have concluded that the range of options provided by the nuclear Triad offers the flexibility needed for the range of contingencies we might face. A sustained long-term investment in the enterprise is required; the strategic delivery vehicles we rely on today grew out of investments the Nation made in the 50's, 60's, 70's, and 80's. Many of these systems are aging out of service, and we must now invest in extending the life of some and replacing others. The force structure choices we make today will determine the capabilities a President will have in twenty, thirty, and forty years. We cannot say what mix of capabilities the United States will need that far into the future, but modernizing the Triad will provide the next generation of U.S. policymakers with a flexible and resilient range of capabilities.

The FY 15 budget and FYDP reflect our plans for maintaining and modernizing the Triad. The 1043 report which DoD and DoE plan to provide to Congress in April will address these issues in more detail. We appreciate Congress providing thirty days from the release of the FY15 budget request to submit the 1043 report.

Strategic Delivery Vehicles: With regard to the strategic submarine force, the construction of the first of 12 Ohio-class replacement submarines is scheduled to begin in 2021, with long-lead item procurement beginning in 2016. The first new U.S. SSBNs will enter the force beginning in FY 2031 to maintain the minimum number of submarines necessary to meet

strategic requirements. These submarines will include new advances in nuclear reactor design that eliminate the need for midlife refueling, thereby providing greater operational availability for each submarine. Eliminating the need for the midlife nuclear refueling will allow a force of 12 Ohio-class replacement submarines to replace the 14 SSBNs needed for deterrence missions today and provide significant long-term cost savings. The service life for the Trident D-5 SLBM has been extended so that transition to the Ohio-replacement submarine will occur before we need to begin replacing the missiles.

To sustain the Minuteman (MM) III, Intercontinental Ballistic Missiles (ICBMs) through 2030, the FY15 budget funds critical upgrades and component replacements. The Air Force Analysis of Alternatives (AOA) is examining options for a post-2030 follow-on system known as the Ground-Based Strategic Deterrent. This will enable development of a comprehensive plan to modernize and extend the life of the MMIII or to develop a follow-on ICBM. Follow-on ICBM activities will be closely coordinated and aligned with steps taken to modernize the MMIII through 2030 in order to achieve cost savings. This AOA should be finished in late spring or early summer.

Our nuclear-capable strategic bombers can be used to demonstrate our commitment to allies and our capabilities to our adversaries. The United States will continue to maintain two B-52H strategic bomber wings and one B-2 wing. Both bomber types are aging. Sustained funding and support is required to ensure operational effectiveness through the remainder of their respective service lives. The FY 15 budget continues funding for the Long Range Strike Bomber (LRS-B) which is currently in development.

Nuclear Command, Control, and Communications: The President is the only one who can authorize the use of nuclear weapons and our Nuclear Command, Control, and

Communications (NC3) systems are critical to providing the President situational awareness in a crisis, responses for consideration, and transmitting the President's orders to strategic forces. The Department is formulating a long-term strategy to modernize critical NC3 capabilities including enhanced NC3 support for regional contingencies. The Department continues to prioritize resources to address known capability gaps while incrementally building toward a modern NC3 architecture that will ensure timely decision-making support for the President.

Nuclear Weapons, Stockpile, and Infrastructure: Along with delivery vehicles and NC3, strengthening a President's options requires sustained commitment to warhead life extension programs and infrastructure modernization. Thanks to the measure of budgetary relief Congress provided for Fiscal Year 2014, we have been able to continue uninterrupted production of modernized W76-1 submarine launched ballistic missile warheads, and have completed the first system-level engineering development test of the B61-12 bomb.

The Administration has outlined a concept that we refer to as the "3+2" strategy. This strategy, when completed decades from now, would result in five types of warhead designs in place of the twelve unique warhead types in today's active nuclear weapons stockpile. The strategy envisions three interoperable warheads compatible with both submarine and land-based ballistic missiles, and two aircraft-delivered weapon types. This modernization and consolidation of warhead types would allow for more efficient hedging and therefore reductions in the non-deployed stockpile.

One of the two air-delivered weapons, the B61-12 gravity bomb and its accompanying tail kit assembly (TKA), are scheduled for first production in 2020. This life extension program (LEP) will enable us to consolidate and retire several different variants of the B-61 and shift our surveillance resources to other areas of the stockpile. Most importantly, over time, the B61-12

will become the sole nuclear gravity bomb in the United States inventory and will be carried by both dual-capable aircraft (e.g., F-15E, and in the future F-35), as well as the B-2 bomber and the Long Range Strike Bomber. The second air delivered weapon, the air-launched cruise missile (ALCM) will be maintained as our standoff weapon until a follow on system, the long-range standoff (LRSO) missile, achieves first unit production in FY2025 - FY2027.

Development of the Interoperable Warhead-1 (or W78/88-1), part of the "3+2" strategy, is being delayed beyond NNSA's future years nuclear security plan (FYNSP). This delay is the result of prioritizations due to the current fiscal climate.

Budget and Fiscal Uncertainties: Thanks to the two-year budget agreement that Congress recently approved, we are now facing a more certain fiscal environment, at least in the short term. Ultimately, sustained and reliable funding profiles are necessary to avoid cost increases and to meet our modernization timelines.

Personnel Review for the Nuclear Enterprise: The recently publicized issues concerning a few Air Force and Navy personnel involved with the nuclear forces pose no threat to the reliability and effectiveness of our nuclear forces. There are nonetheless serious issues of professionalism and discipline that must be addressed. The Secretary of Defense has created two special review panels to assess the reasons for these failures and to propose corrective actions. The internal review, co-chaired by Assistant Secretary of Defense Madelyn Creedon and Rear Admiral Peter Fanta from the Joint Staff, will examine the nuclear mission in both the Department of the Air Force and the Department of the Navy regarding personnel, training, testing, command oversight, mission performance, and investment. They will report their findings to Secretary Hagel no later than April 30, 2014. Additionally, General Larry Welch, USAF (Ret) and Admiral John Harvey, USN (Ret) will lead an independent review to provide a

broader, external examination of the DoD nuclear enterprise. They have been asked to provide findings and recommendations to the Secretary no later than June 2, 2014. These reviews are not about assigning blame, but about identifying, assessing, and correcting systemic deficiencies, and applying best practices for DoD nuclear enterprise personnel.

STRENGTHENING EXTENDED DETERRENCE AND ASSURANCE AND STRATEGIC STABILITY

Since 2010, we have made considerable progress in strengthening extended deterrence and assurance, and we continue to engage Russia and China on efforts toward mutually beneficial steps for enhancing strategic stability.

Extended Deterrence and Assurance: We will continue to assure our allies and partners of our commitments to their security, and demonstrate it through forward deployment of U.S. forces in key regions, strengthening U.S. and allied conventional and missile defense capabilities, and the continued provision of U.S. extended nuclear deterrence. U.S. nuclear weapons have played an essential role in extending deterrence to U.S. allies and partners against nuclear attack or nuclear-backed coercion by states in their region that possess or are seeking nuclear weapons. A credible "nuclear umbrella" has been provided by a combination of means – the strategic nuclear forces of the U.S. Triad, non-strategic nuclear weapons currently forward deployed in Europe in support of the North Atlantic Treaty Organization (NATO) and U.S.-based nuclear weapons that could be forward deployed quickly to meet regional contingencies. Security relationships in key regions will retain some nuclear dimension as long as nuclear threats to allies and partners remain. Extended nuclear deterrence can also serve our nonproliferation goals by reassuring non-nuclear allies and partners that their security interests can be protected without a need to develop their own nuclear weapons.

As outlined in the 2010 Nuclear Posture Review, we have been working with allies and partners on how best to strengthen regional deterrence – beginning formal dialogues on the topic where they had not existed, and maintaining and refreshing the NATO deterrence dialogue which has long existed.

Extended Deterrence in Northeast Asia: Our allies in Northeast Asia live in a dangerous neighborhood, and in the year following the Nuclear Posture Review, we initiated formal deterrence dialogues with both South Korea and Japan. Our Extended Deterrence Policy Committee (EDPC) with the Republic of Korea (ROK) and our Extended Deterrence Dialogue (EDD) with Japan address relevant nuclear and missile defense issues with each ally. Exploring concepts such as extended deterrence, assurance, and strategic stability through table top exercises and frank discussion helps us develop shared understandings with each ally and prepare for a range of security challenges and scenarios. Also, in October 2013 the U.S.-ROK alliance agreed upon a bilateral, tailored deterrence strategy to address the growing North Korean nuclear threat.

These high-level dialogues underscore that the United States is unequivocally committed to the defense of Japan and the Republic of Korea, and that both Allies are committed to working with the United States in deterring aggression and promoting peace and stability throughout the region. Our ability to send strategic bombers and tactical nuclear-capable aircraft to the region to signal resolve resonates with our allies, as the B-52 and B-2 flights over South Korea last March during a period of heightened tension on the peninsula demonstrated.

North Atlantic Treaty Organization: NATO's 2012 Deterrence and Defence Posture Review affirms that nuclear weapons and missile defensse are core components of NATO's overall capabilities for deterrence, and that as long as nuclear weapons exist, NATO will remain

a nuclear alliance. NATO will continue to seek conditions and consider options for further reductions of non-strategic nuclear weapons, and we will continue to work closely with our NATO allies on all issues related to the Alliance's nuclear capabilities through the Nuclear Planning Group and the High Level Group. These fora provide a critical venue for discussions among NATO allies on a broad range of nuclear policy matters, including the continued safety and security of nuclear weapons, shared perceptions of potential threats to Alliance members, and the development and evolution of common alliance positions on nuclear policy.

The United States currently forward deploys dual-capable aircraft (F-15Es and F-16s) and B-61 gravity bombs in Europe in support of NATO. In line with the 2013 Nuclear Employment Strategy and the 2010 Nuclear Posture Review, we will maintain the capability to deploy dual-capable aircraft as well as bombers globally, if needed. The Department will integrate nuclear delivery capability into the F-35 Joint Strike Fighter (JSF) during follow-on development block upgrades of the aircraft at the end of calendar year 2024.

The long-standing special relationship between the United States and the United Kingdom remains strong. The Common Missile Compartment (CMC) for the next generation of our respective SSBN fleets is a cooperative effort that will provide cost-sharing benefits to both countries. In the current era of declining defense budgets and overall fiscal uncertainty, this type of collaboration is prudent.

Strategic Stability: We would welcome the opportunity to take additional steps with Russia to enhance strategic stability, including exploring opportunities for missile defense cooperation and further nuclear reductions. The Administration has said that it will pursue further reductions negotiated with Russia.

Even as we pursue new opportunities for cooperation, strategic stability also requires that we are vigilant in verifying compliance with existing arms control obligations. The U. S. takes treaty compliance very seriously and utilizes all measures that are available to us through the New START Treaty. As of February 5, 2014, the United States and Russia have each conducted 54 on-site inspections under the New START Treaty verification regime. We have met our inspection quotas for the Treaty's first three years, and we have begun the fourth year of inspections. Delegations from the United States and Russia have also met six times under the Treaty's Bilateral Consultative Commission to address issues related to implementation of the Treaty.

Although China's arsenal is smaller than Russia's, China continues to modernize its nuclear weapons and delivery systems. As it has for several years now, the United States continues to urge China to engage in discussions on strategic issues in a variety of venues. Both countries have said they want to address the other's concerns about their strategic postures. A sustained dialogue on our broad strategic postures and greater transparency between our two nations would be an opportunity for both countries to make those goals more credible.

One final word about strategic stability: for the United States, strategic stability, however we define it, must entail security for our allies and respect for their interests.

Conclusion

The Defense Authorization Request for Fiscal Year 2015 and Future Years Defense Program underscores our commitment to ensuring effective options for this and future Presidents; ensuring a safe, secure, and effective nuclear arsenal for as long as nuclear weapons exist; assuring U.S. allies; and continuing to engage Russia and China on strengthening strategic

stability. The overall goals have not changed since 2010 and we have made considerable progress, but we have had to make adjustments due to budget constraints, and may have to do so again as the budget landscape becomes more clear. Thank you for the opportunity to testify; I look forward to your questions.

M. Elaine Bunn
Deputy Assistant Secretary of Defense for Nuclear and Missile Defense Policy

As Deputy Assistant Secretary of Defense for Nuclear and Missile Defense Policy (DASD/NMD), appointed 22 March 2013, M. Elaine Bunn directs the offices of the Under Secretary for Policy that develop and review Departmental and National policies for nuclear and missile defense capabilities. These responsibilities include defining requirements for future capabilities, reviewing and adjusting operational planning, and leading discussions to develop strategies and options with allies and friends as well as international cooperation or agreements in the areas of nuclear forces, global strike and missile defense.

Prior to being appointed DASD/NMD, Bunn was a Distinguished Research Fellow in the Center for Strategic Research at National Defense University's Institute for National Strategic Studies, where she headed a project on future strategic concepts.

Before joining INSS in 2000, she was a senior executive in the Office of the Secretary of Defense (OSD), where she worked for twenty years in international security policy. She served as Principal Director, Nuclear Forces and Missile Defense Policy, from 1993-98. During that time, she was executive director of the 1994 Nuclear Posture Review. Her other assignments in OSD included the offices of Strategic Defense Policy, Strategic Arms Control Policy, and Theater Nuclear Forces Policy. She began her DoD career as a Presidential Management Intern in 1980-82, with a number of rotational tours, including at the State Department. Bunn was a visiting fellow at the RAND Corporation 1998-2000. From February through June 2001, she cochaired a panel for the Secretary of Defense, framing issues for the 2001 Nuclear Posture Review. She was again seconded to OSD in April-May 2009 to chair the strategy panel for the 2010 Nuclear Posture Review. She served on the Defense Science Board's 2003 study on strategic strike, and on an expert working group of the Commission on Strategic Posture in 2008-09.

In the 1970's, she served as a research assistant at the U.S. Arms Control and Disarmament Agency and at the Congressional Research Service, as well as a staff analyst for the Lieutenant Governor of Georgia and an intern for U.S. Senator Sam Nunn.

Bunn, a 1988 graduate of the National War College, received an M.A. in International Security from Johns Hopkins School of Advanced International Studies in 1980. She was a Fulbright Scholar at the Université de Neuchâtel, Switzerland in 1974-75, after graduating from the University of Georgia with a B.A. in International Political Communications. She currently serves on the Board of Visitors for the School of Public and International Affairs at the University of Georgia, as Chair of the Board of Advisors for the CSIS Project on Nuclear Initiatives (PONI), and as a Senior Mentor for the Project for Emerging Leaders at the Center for the Study of Weapons of Mass Destruction. She was awarded the Defense Medal for Distinguished Civilian Service in 1995, and the Medal for Meritorious Civilian Service in 1989 and 1993.

She has published a number of articles and book chapters on deterrence, assurance of allies, strategic planning, nuclear policy, missile defense, and preemption, and has spoken frequently on these issues at U.S. and international conferences.

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THE HOUSE ARMED SERVICES COMMITTEE
STRATEGIC FORCES SUBCOMMITTEE

STATEMENT

OF

VICE ADMIRAL TERRY BENEDICT, USN

DIRECTOR, STRATEGIC SYSTEMS PROGRAMS

BEFORE THE

SUBCOMMITTEE ON STRATEGIC FORCES

OF THE

HOUSE ARMED SERVICES COMMITTEE

ON

FY2015 ATOMIC ENERGY DEFENSE ACTIVITIES AND NUCLEAR FORCES

PROGRAMS

08 APRIL 2014

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THE HOUSE ARMED SERVICES COMMITTEE
STRATEGIC FORCES SUBCOMMITTEE

Introduction

Chairman Rogers, Ranking Member Cooper, distinguished Members of the subcommittee, thank you for this opportunity to discuss Navy's strategic programs. It is an honor to testify before you this morning representing the Navy's Strategic Systems Programs (SSP).

SSP's mission is to design, develop, produce, support, and ensure the safety of our Navy's sea-based strategic deterrent, the Trident II (D5) Strategic Weapons System (SWS). The men and women of SSP and our industry partners remain dedicated to supporting the mission of our Sailors on strategic deterrent patrol and our Marines, Sailors, and Coast Guardsmen who are standing the watch, ensuring the security of the weapons we are entrusted with by this nation.

The Navy provides the most survivable leg of the U.S. nuclear triad with our ballistic missile submarines (SSBNs) and the Trident II (D5) SWS. A number of factors have contributed to an increased reliance on the sea-based leg of the triad. The 2010 Nuclear Posture Review reinforced the importance of the SSBNs and the Submarine Launched Ballistic Missiles (SLBMs) they carry. SLBMs will comprise a significant majority of the nation's operationally deployed nuclear warheads, thus increasing the nation's reliance on the sea-based leg. The Chief of Naval Operations has stated the OHIO Replacement Program – along with the propulsion and the SWS – remains one of Navy's highest priorities.

Ensuring the sustainment of the sea-based strategic deterrent capability is a vital national requirement today and into the foreseeable future. Our budget request provides the required funding to support the program of record in fiscal year 2015 for the Trident II (D5) SWS. To sustain this capability, I am focusing on my five priorities: Nuclear Weapons Safety and Security; the Trident II (D5) SWS Life Extension Program; the OHIO Replacement Program; the Solid Rocket Motor (SRM) Industrial Base; and Collaboration with the Air Force.

Nuclear Weapons Safety and Security

The first priority, and the most important, is the safety and security of the Navy's nuclear weapons. Navy leadership has clearly delegated and defined SSP's role as the program manager and technical authority for the Navy's nuclear weapons and nuclear weapons security.

At its most basic level, this priority is the physical security of one of our nation's most valuable assets. Our Marines and Navy Masters at Arms provide an effective and integrated elite security force at our two Strategic Weapons Facilities and Waterfront Restricted Areas in Kings Bay, Georgia and Bangor, Washington. U.S. Coast Guard Maritime Force Protection Units have been commissioned at both facilities to protect our SSBNs as they transit to and from their dive points. These Coast Guardsmen and the vessels they man provide a security umbrella for our OHIO Class submarines. Together, the Navy, Marine Corps, and Coast Guard team form the foundation of our Nuclear Weapons Security Program. My headquarters staff ensures that our nuclear weapons capable activities meet or exceed security, safety, and compliance criteria.

SSP's efforts to sustain the safety and improve the security of these national assets continue at all levels of the organization. The Navy's nuclear weapons enterprise maintains a culture of self-assessment in order to sustain safety and security. This is accomplished through biannual assessments by the SSP headquarters staff, periodic technical evaluations, formal inspections, and continuous on-site monitoring and reporting at the Strategic Weapons Facilities. The technical evaluations, formal inspections, and on-site monitoring at the Strategic Weapons Facilities provide periodic and day-to-day assessment and oversight. The biannual SSP assessments conducted by my staff evaluate the ability of the local organizations to self-assess their execution of the assigned strategic weapons mission and compliance with requirements. The results of these biannual assessments are critically and independently reviewed through the Navy Nuclear Weapons Assessment and provided to the Secretary of the Navy and the Chief of Naval Operations for review. The most recent biannual SSP assessment was signed in

January of 2014 and will inform the Navy's Nuclear Weapons Assessment due later this month.

We also strive to maintain a culture of excellence to achieve the highest standards of performance and integrity for personnel supporting the strategic deterrent mission. We continue to focus on the custody and accountability of the nuclear assets that have been entrusted to the Navy. SSP's number one priority is to maintain a safe, secure, and effective strategic deterrent.

D5 Life Extension Program

The next priority is SSP's life extension effort to ensure the Trident II (D5) SWS remains an effective and reliable sea-based deterrent. The Trident II (D5) SWS continues to demonstrate itself as a credible deterrent and exceeds the operational requirements established for the system almost 30 years ago. The submarine leg of the U.S. strategic deterrent is ready, credible, and effective, thereby assuring our allies and partners and deterring potential adversaries. However, we must watch for and resolve potential age-related issues to ensure a continued high level of reliability.

The Trident II (D5) SWS has been deployed on our OHIO Class ballistic missile submarines for nearly 25 years and is planned for a service life of 50 years. This is well beyond its original design life of 25 years and more than double the historical service life of any previous sea-based strategic deterrent system. As a result, effort will be required to sustain a credible SWS.

The Navy is proactively taking steps to address aging and technology obsolescence in today's sea-based deterrent or SWS. SSP is extending the life of the Trident II (D5) SWS to match the OHIO Class submarine service life and to serve as the initial baseline mission payload for the OHIO Replacement submarine platform entering operational service in the 2030s. This is being accomplished through an update to all the Trident II (D5) SWS subsystems: launcher, navigation, fire control, guidance, missile, and reentry. Our flight hardware - missile and guidance - life extension efforts are designed to meet the same form, fit, and function of the original system to keep the deployed system as one

homogeneous population, control costs, and sustain the demonstrated performance of the system. We will also remain in continuous production of energetic components such as solid rocket motors. These efforts will provide the Navy with the missiles and guidance systems we need to meet operational requirements through the introduction of the OHIO Replacement SSBNs.

While budgetary pressures and impacts of sequestration have resulted in some deferred or delayed efforts, strategic deterrence remains one of the Navy's highest priorities. As such, the Navy is committed to minimizing, to the maximum extent possible, financial impacts to this program in order to meet strategic requirements.

One impacted effort is the change to our flight test program. In accordance with Strategic Command (STRATCOM) requirements, the Navy must flight test a minimum of four Trident II (D5) missiles per year in a tactically-representative environment. The purpose of flight testing is to detect any changes in reliability or accuracy. The fiscal year 2015 budget request reflects a reduction of two planned flight tests for affordability. The Navy has coordinated with STRATCOM to determine that this temporary reduction is manageable in the short-term, contingent upon our plan to ramp back up to four flight tests per year by fiscal year 2017 A prolonged or further reduction in planned flight tests would impact our ability to detect changes in system reliability and accuracy with the required degree of statistical confidence to meet STRATCOM requirements. I am strongly committed to ensure our flight testing returns to four flight tests per year in fiscal year 2017.

Despite budgetary pressures, the Navy's D5 life extension program is on track. In 2013, the Navy conducted the second flight test of the D5 life-extended (LE) guidance system and the first flight test of the D5 LE command sequencer. The D5 LE command sequencer began its initial fleet introduction earlier this year. The life extension efforts for the remaining electronics packages are on budget and on schedule. The life-extended missiles will be available for initial fleet introduction in FY 2017.

Another major step to ensure the continued sustainment of our SWS is the SSP Shipboard Systems Integration efforts, which utilize open architecture and commercial off-the-shelf hardware and software for shipboard systems. This update will be installed on the final U.S. SSBN in April of this year completing installation on all fourteen U.S. SSBNs, all four U.K. SSBNs, and all U.S. and U.K. land-based facilities. This effort is a technical refresh of shipboard electronics hardware and software upgrades, which will extend the service life of the SWS, enable more efficient and affordable future maintenance of the SWS and ensure we continue to provide the highest nuclear weapons safety and security for our SSBNs.

To sustain the Trident II (D5) SWS, SSP is extending the life of the W76 reentry system through a refurbishment program known as the W76-1. This program is being executed in partnership with the Department of Energy, National Nuclear Security Administration. The W76-1 refurbishment maintains the military capability of the original W76 for an additional 30 years.

The Navy is also in the initial stages of refurbishing the W88 reentry system. The Navy is collaborating with the Air Force to reduce costs through shared technology. In particular, the Air Force and Navy, consistent with Nuclear Weapons Council direction, are conducting studies examining the feasibility of a joint approach for fuzes for the Navy's Mk5/W88, the Air Force's Mk21/W87 and the future W78 and W88 Life Extension Programs. We believe the joint replacement fuze program is feasible and has the potential of several major benefits for the Nation, including the potential to achieve significant cost savings.

OHIO Replacement Program

One of the Navy's highest priority acquisition programs is the OHIO Replacement Program, which replaces the existing OHIO Class submarines. The continued assurance of our sea-based strategic deterrent requires a credible SWS, as well as the development of the next class of ballistic missile submarines. The Navy is taking the necessary steps

to ensure the OHIO Replacement SSBN is designed, built, delivered, and tested on time with the right capabilities at an affordable cost.

To lower development costs and leverage the proven reliability of the Trident II (D5) SWS, the OHIO Replacement SSBN will enter service with the Trident II (D5) SWS and D5 life-extended missiles onboard. These D5 life extended missiles will be shared with the existing OHIO Class submarine until the current OHIO Class retires. Maintaining one SWS during the transition to the OHIO Class Replacement is beneficial from a cost, performance, and risk reduction standpoint. A program to support long-term SWS requirements will have to be developed in the future to support the OHIO Class Replacement SSBN through its entire service life, currently projected into the 2080s.

The Navy continues to leverage from the VIRGINIA Class attack submarine program to implement lessons-learned and ensure the OHIO Replacement Program pursues affordability initiatives across design, construction, and life cycle operations and support. Maintaining this capability is critical to the continued success of our sea-based strategic deterrent.

A critical component of the OHIO Replacement Program is the development of a common missile compartment that will support Trident II (D5) deployment on both the OHIO Class Replacement and the successor to the U.K. VANGUARD Class. While lead U.S. ship construction has shifted from 2019 to 2021 as a result of the Budget Control Act of 2011, the Navy is maintaining the original program of record for the design, prototyping, and testing of the common missile compartment and SWS deliverables in order to meet our commitments to the U.K. Any further delay to the common missile compartment will impact the U.K.'s ability to maintain a continuous at sea deterrent posture.

The U.S. and the U.K. have maintained a shared commitment to nuclear deterrence through the Polaris Sales Agreement since April 1963. As the Director of SSP, I am the U.S. Project Officer for the Polaris Sales Agreement. Our programs are tightly coupled both programmatically and technically to ensure we are providing the most cost effective,

technically capable nuclear strategic deterrent for both nations. Last year, marked the 50th anniversary of this agreement, and I am pleased to report that our longstanding partnership with the U.K. remains strong. The United States will continue to maintain its strong strategic relationship with the U.K. as we execute our Trident II (D5) Life Extension Program and develop the common missile compartment. Our continued stewardship of the Trident II (D5) SWS is necessary to ensure a credible and reliable SWS is deployed today on our OHIO Class submarines, the U.K. VANGUARD Class, as well as in the future on our respective follow-on platforms. This is of particular importance as the sea-based leg of the Triad provides our assured second-strike capability thereby enhancing strategic stability. The OHIO Replacement will be a strategic, national asset whose endurance and stealth will enable the Navy to provide a continuous, uninterrupted strategic deterrent.

Solid Rocket Motor (SRM) Industrial Base

The fourth priority is the importance of the defense and aerospace industrial base, in particular, the solid rocket motor industry. I remained concerned with the decline in demand for the solid rocket motor. While the Navy is maintaining a continuous production capability at a minimum sustaining rate of 12 rocket motor sets per year, the demand from both NASA and Air Force has declined. Not only did this decline result in higher costs for the Navy, as practically a sole customer, but it also put an entire specialized industry at risk for extinction – or at least putting it on the "endangered species list." That is not something we should risk. The Navy cannot afford to solely carry this cost, nor can this nation afford to lose this capability over the long-term. While the efforts of our industry partners and others have created short-term cost relief, the long-term support of the solid rocket motor industry remains an issue that must be addressed at the national level. At SSP, we will continue to work with our industry partners, DoD, senior NASA leadership, Air Force, and Congress to do everything we can to ensure this vital national industry asset is preserved.

Collaboration with the Air Force

The final topic is strategic collaboration between the Services. The Navy and the Air Force are both addressing the challenges of sustaining aging strategic weapon systems and have begun to work collaboratively to ensure these capabilities are retained in the long-term to meet our requirements. To do so, we are seeking opportunities to leverage technologies and make the best use of scarce resources.

As I testified last year, the Navy and the Air Force established an Executive Steering Group to identify and investigate potential collaboration opportunities and oversee collaborative investments for sustainment of our strategic systems. As a part of this effort, technology area working groups are studying collaboration opportunities in the areas of Reentry, Guidance, Propulsion, Launcher, Radiation Hardened Electronics, Ground Test and Flight Test systems, and Nuclear Weapons Surety.

Navy is also supporting an examination of the advantages of collaboration and commonality within the Air Force's Ground Based Strategic Deterrent (GBSD) Analysis of Alternatives (AoA). Members of my staff are participating with their Air Force counterparts to analyze the potential for commonality presented by each of the alternatives being examined. Additionally, an evaluation of the benefits, along with any potential risks, is being conducted as part of the overall effort.

The entire spectrum of potential commonality must be analyzed with the goal of using commonality where appropriate while ensuring essential diversity where needed, and being good stewards of taxpayer funds. The timing is now to address collaboration opportunities to maintain our ballistic missile capability in the long-term.

Many of the industries and required engineering skills sets are unique to strategic systems. Key to SSP's historical success has been our technical applications programs, which have provided a research and development foundation. As we evaluate maintaining this strategic capability to match the full service life of OHIO Replacement submarine, we will need to resume these critical efforts. Navy is developing a plan to reinvest in these technical applications programs.

Conclusion

SSP continues to maintain a safe, secure, and effective strategic deterrent and focus on the custody and accountability of the nuclear assets entrusted to the Navy. Our budget request provides the necessary funds to sustain this capability in fiscal year 2015. However, we must continue to be vigilant about unforeseen age-related issues to ensure the high reliability required of our SWS. SSP must maintain the engineering support and critical skills of our industry and government team to address any future challenges with the current system as well as prepare for the future of the program. Our nation's sea-based deterrent has been a critical component of our national security since the 1950s and will continue to assure our allies and deter potential adversaries well into the future. I am privileged to represent this unique organization as we work to serve the best interests of our great Nation.

United States Navy
Biography

Vice Admiral Terry Joseph Benedict
Director, Strategic Systems Programs

Vice Adm. Benedict is assigned as director of the Navy's Strategic Systems Programs (SSP). Benedict's previous flag assignment was as program executive officer for Integrated Warfare Systems, Office of the Assistant Secretary of the Navy (Research, Development and Acquisition), Washington, D.C.

He transferred to the engineering duty officer community in 1985. Benedict reported to Strategic Systems Programs in 1988 as a lieutenant. He has had eight previous billets within SSP in numerous technical branches, a field tour at the Missile Manufacturing Facility and served as the deputy director/technical director.

Benedict also had two tours in Naval Sea Systems Command; as a systems engineer and as the executive assistant to the Commander.

Benedict graduated from the U.S. Naval Academy in 1982 with a Bachelor of Science degree. He also holds a Master of Science in Engineering Science and a Master of Business Administration. He is a graduate of the Advanced Program Management Course at the Defense Acquisition University, the Executive Leadership Course at Carnegie Mellon, and is a certified Project Management Professional.

Benedict assumed command as the 13th director of Strategic Systems Programs, May 7, 2010 and was promoted to vice admiral, May 28, 2013.

DEPARTMENT OF THE AIR FORCE

PRESENTATION TO THE
HOUSE ARMED SERVICES COMMITTEE
SUBCOMMITTEE ON STRATEGIC FORCES
UNITED STATES HOUSE OF REPRESENTATIVES

SUBJECT: Department of Defense Nuclear Enterprise

STATEMENT OF: Major General Garrett Harencak
Assistant Chief of Staff
Strategic Deterrence and Nuclear Integration

April 8, 2014

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HOUSE ARMED SERVICES COMMITTEE
SUBCOMMITTEE ON STRATEGIC FORCES
UNITED STATES HOUSE OF REPRESENTATIVES

Introduction

Chairman Rogers, Ranking Member Cooper, distinguished Members of the Committee, thank you for the opportunity to discuss Air Force nuclear programs.

As the Assistant Chief of Staff for Strategic Deterrence and Nuclear Integration, my team, on behalf of the Chief of Staff of the Air Force, leads planning, policy development, advocacy, integration, and assessment for the Airmen and weapon systems performing Nuclear Deterrence Operations, a core function of our United States Air Force. Stewardship and continuous improvement of this mission remains a top Air Force priority, in support of the President's mandate that the United States maintain a safe, secure, and effective nuclear deterrent.

The stability that a safe, secure, and effective nuclear deterrent provides in today's increasingly complex, multi-polar, proliferated environment is essential to U.S. national security. In order to maintain this vital capability for our nation and our allies who rely on it, the Air Force remains fully committed to making the necessary long-term investments in the development of our personnel and in the sustainment, modernization, and recapitalization of our nuclear forces and supporting infrastructure

Deliberate Development of Our Airmen

The exacting nature of Nuclear Deterrence Operations requires a cadre of experienced, motivated professionals committed to the highest levels of performance and accountability. For that reason, the Airmen we entrust with the special responsibility of supporting and conducting the nuclear mission are the single most important element of the enterprise and are foundational

to its success. Growing and sustaining a cadre of officers, enlisted Airmen, and civilians who possess the necessary quality and depth of nuclear expertise is a multi-dimensional effort that incorporates force development, personnel management, education, and training processes. In our ongoing effort to strengthen the nuclear mission, we have worked hard in recent years to institutionalize a more deliberate and holistic approach to human capital management.

In support of that effort, the Air Force instituted a Nuclear Enterprise Human Capital Strategy to strengthen manning and management of nuclear career fields. We recently formalized our processes and policies for identifying, designating, and tracking Key Nuclear Billets (KNBs), select positions of responsibility within the nuclear enterprise that are vital to its health and sustainment. KNBs require defined levels of nuclear experience based on each specific position and are given the highest assignment priority. The program allows us to more effectively manage the assignment of qualified personnel to critical nuclear positions, and we rely on a periodic re-validation process to ensure KNBs are aligned to meet the constantly changing needs of the enterprise.

We are leveraging the best practices learned from the KNB process to address specific areas of need, for example, in the identification of personnel supporting the nuclear command, control, and communications (NC3) mission. This process allows us to better assess and address experience gaps in order to ensure a continuous pipeline of NC3 personnel with the right combination of training and expertise will be available in the years to come. Through a separate effort, we are in the early stages of establishing best practices for developing our civilian nuclear workforce, a critical facet of the enterprise on which we depend to provide continuity and highly specialized technical expertise. We are also revising the methods we use to select senior nuclear commanders to include a more robust screening and interview processes. Our efforts to instill

critical thinking on nuclear deterrence concepts into training and professional military education are also progressing.

In order to more deliberately structure the career progression of our of ICBM officers, we stood up an ICBM-experienced career management team focused solely on the development of missileers. Beginning last February with the creation of a separate career field for ICBM operations (13N), a development team of senior nuclear leaders was established that now convenes regularly to manage the career field. This effort has led to increased competitive selection among missileers for developmental education opportunities, codification of the process used for managing the transition of officers from the ICBM force into other career fields, and the creation of a career pyramid aimed at producing seasoned leaders within the ICBM community.

Lastly, another important area of sustained effort is the streamlining of the Air Force's Personnel Reliability Program (PRP), a tool we use to ensure Airmen with nuclear weapons-related duties meet the highest standards of individual reliability and trustworthiness. Our work to strengthen and restore this program's focus on its intended purpose is yielding results. We are in the process of finalizing new policies governing PRP that will standardize its implementation across the Air Force and reemphasize its role as a Commander's program.

Fostering Continuous Improvement in Our Operations

Excellence in nuclear operations is underpinned by a culture of compliance and accountability, adherence to high standards, and critical self-assessment. Upholding these values requires effective processes and structures to identify and correct systemic weaknesses across all

levels of the enterprise. In the years since 2008-2009, when major organizational changes realigned the Air Force's focus on the nuclear mission, we have applied persistent effort to institutionalizing a comprehensive system of problem identification and solving based on self-assessment, trend/root cause analysis, and communication that complements external inspection processes.

In support of that ongoing effort, we significantly strengthened the nuclear inspection process by revising the inspection guidance, establishing independent oversight, standardizing inspector training, and issuing guidance for root cause analysis. Our work to enhance trend analysis and resolution from nuclear surety inspections continues, one of five focus areas identified in 2010 as part of the Air Force's nuclear enterprise update to the Secretary of Defense. Additionally, we have carried forward our use of the Air Force Comprehensive Assessment of Nuclear Sustainment (AFCANS) process to critically examine the sustainment activities needed to keep our aging weapon systems safe, secure, and effective.

We continue to apply sustained, senior-leader oversight and governance to the nuclear enterprise through the Nuclear Oversight Board (NOB), chaired by the Secretary and Chief of Staff of the Air Force, and the three-star level Nuclear Issues Resolution and Integration (NIRI) board. These structures provide a forum for resolution of issues affecting the enterprise, coordination of strategic guidance, and alignment of institutional priorities. As the Secretary of the Air Force recently emphasized, we will continue to examine policies, practices, and culture throughout the enterprise to uncover, and, when necessary, confront systemic institutional deficiencies that may be hindering innovation and improvement.

Sustaining Investment in the Nuclear Enterprise

Despite the challenge of prioritizing investments within increasingly stringent fiscal constraints, the Air Force's Fiscal Year 2015 budget request for nuclear deterrence operations reflects a careful balance of investment between near-term readiness and long-term recapitalization requirements. The Air Force made a number of difficult cost and schedule adjustments to our programs in order to maintain affordability without incurring undue risk. Considerable work lies ahead as we endeavor to revitalize our delivery platforms, weapons systems, and NC3 systems. Accordingly, the Air Force appreciates Congress's continued recognition of the importance of nuclear deterrence to our national security, as well as your support for our major modernization and recapitalization plans.

The FY15 budget request continues robust investment in the development of the dual-capable Long Range Strike-Bomber (LRS-B), one of the Air Force's top acquisition priorities. LRS-B's extended-range, significant payload, and ability to penetrate and survive in non-permissive airspace will provide unmatched operational flexibility to Joint commanders upon delivery in the mid-2020s.

The Long-Range Standoff (LRSO) missile, the follow-on to the aging AGM-86B Air Launched Cruise Missile (ALCM) first fielded in 1982, will serve as the next-generation nuclear-capable standoff weapon compatible with the B-52, B-2, and LRS-B. Although the FY15 budget request delays the LRSO program for three years, the Air Force continues risk reduction and early systems engineering work, as well as coordination with the National Nuclear Security Administration (NNSA) to ensure the production schedule for a life-extended LRSO warhead is synchronized with operational requirements. To make sure deterrence requirements continue to

be met prior to the fielding of LRSO, the FY15 budget continues a comprehensive service life extension program for the ALCM that will sustain this weapon system through 2030.

For our current generation of nuclear-capable bombers, the B-2 and B-52, the FY15 budget request funds a range of modernization and sustainment initiatives that will extend the combat effectiveness of these long-range strike platforms through the 2020s and beyond. In particular, the budget request fully funds the installation across the entire B-52 fleet of the Combat Network Communication Technology (CONECT) system, a suite of technologies that equips the B-52 with 21st century communications, retargeting, and situational awareness capabilities. Other enhancements include smart-weapon carriage capability in the internal weapons bay, anti-skid brake upgrades, and modern transponders that will ensure the B-52 is compliant with impending U.S. and international requirements. Key upgrades for the B-2 funded in the FY15 budget request include the Defensive Management System Modernization, the Common Very Low Frequency/Low Frequency Receiver, and Flexible Strike, a capability that will allow for the eventual integration of advanced digital weapons such as the B61-12 and the LRSO. Together, these programs will ensure the B-2 retains its unique and highly valued ability to hold the global target set at risk.

The FY15 budget request also supports significant modernization of the Air Force's Intercontinental Ballistic Missile (ICBM) force, comprised of 450 Minuteman III missiles geographically dispersed in hardened underground silos. America's venerable ICBM force, on continuous alert since 1959 when the Atlas ICBM went operational, provides unsurpassed stability and responsiveness at a cost far lower than other strategic systems. Several key modernization programs are continued in the FY15 budget request that will sustain Minuteman III and its associated support and test equipment through 2030. These include upgrades to solid

rocket motors, guidance systems, Advanced Extremely High Frequency (AHEF) connectivity in our Launch Control Centers, and a joint warhead fuze program that is leveraging commonality between Air Force and Navy systems to deliver a cost-effective material solution.

In July, we anticipate completion of the Analysis of Alternatives (AoA) for the Ground Based Strategic Deterrent (GBSD) effort, an ICBM solution that will extend the nation's land-based strategic deterrent beyond 2030. Final validation of the AoA is expected this October. The FY15 budget supports a Milestone A decision for GBSD in FY15.

Also funded in the FY15 budget request are risk reduction activities associated with Dual Capable Aircraft (DCA) integration for the F-35 Joint Strike Fighter (JSF). Current plans have JSF DCA capability being fielded in Block 4B in 2024. This initiative, along with the related B61-12 Life Extension Program (LEP) and its associated Tailkit Assembly, are of high interest to our North Atlantic Treaty Organization allies who view the U.S.'s continued support of extended deterrence capabilities as a visible and important commitment to the alliance.

Nuclear Weapon Modernization Programs

Another area of sustained focus is our partnership with the Department of Energy (DOE) to extend the service life of the warheads and gravity weapons that form the basis of the ground and air legs of the Triad. While the top priority is to prolong the lifespan of these systems, these LEPs represent an important opportunity to incorporate modern safety, security, and use-control features in systems that were first operationally deployed in the 1960s, 70s, and 80s. Among these programs, the life extension of the B61—which will eventually be the only gravity weapon employed by our long-range bombers and dual-capable aircraft to support extended deterrence

and assurance commitments—remains one of our top investment priorities. The FY15 budget request continues the Air Force's support of the B61-12 LEP. However, as a result of sequestration impacts, the FY15 budget reflects a one-year slip of the B61-12 LEP first production unit (FPU) from FY19 to FY20. Both the LEP and its associated Tailkit Assembly successfully completed all scheduled objectives and milestones for Calendar Year (CY) 13 and are on-track for CY14.

Our work to life-extend the W78 warhead used on the Minuteman III ICBM continues. Last fall, the Nuclear Weapons Council (NWC) directed an adjustment of the W78/88-1 FPU from FY25 to FY30, and in January, the Consolidated Appropriations Act funded the study of a W78 LEP. Lastly, my staff continues to collaborate closely with the NWC and our DOE mission partners in support of the selection of a life-extended warhead for the LRSO missile, the follow-on program to the AGM-86B ALCM. The Air Force was recently invited by NNSA to participate in the commencement of a Phase 6.1 study for the LRSO warhead, an effort that is expected to commence in July of this year.

Nuclear Command, Control, and Communications

Our nation's nuclear command, control, and communications (NC3) enterprise forms the backbone of a system that provides a secure and survivable communications capability between the President, senior leaders, and our nuclear forces. Day-to-day, these aging ground, air, and space systems are relied upon to provide assured connectivity across the spectrum of conflict, from peacetime to the most challenging wartime conditions. Our work to integrate efforts across the NC3 enterprise and to advocate for NC3 capabilities is producing steady progress. Internal

Air Force partnerships and joint relationships established in this area over the past four years have produced a strong collaborative framework for identifying requirements and synchronizing investment.

During the most recent Program Budget Review, we made strides toward prioritizing future NC3 funding. The Air Force Nuclear Weapons Center is building a strategic roadmap for NC3 sustainment. Air Force Global Strike Command (AFGSC) is working to more fully incorporate NC3 requirements into planning for nuclear deterrence operations. As part of that effort, AFGSC will host a first-ever user-level NC3 symposium in April. My staff is also partnering with AFGSC to identify, and if necessary, mitigate any NC3-related cyber vulnerabilities in the B-52 fleet, building on the success of a similar initiative we conducted for the Minuteman III system.

We are also working with Air Education and Training Command (AETC) to better equip our NC3 warriors with the proper training experiences and curriculum so they will be ready to advocate for these capabilities in the future. Furthermore, we are developing an Air Force instruction that will codify NC3 roles and responsibilities across the service. Lastly, my team continues to focus effort on extending assured communications capability to the bomber fleet, integral to ensuring these platforms remain mission capable in highly contested environments.

New START Implementation

Under the terms of the New Strategic Arms Reduction Treaty (New START), the United States and the Russian Federation have committed to reducing their strategic nuclear forces in accordance with the Treaty's central limits not later than February 5, 2018. In support of that

obligation, the Air Force has fully funded activities necessary to align our ICBM and heavy bomber forces with the baseline force structure previously reported to Congress.

While the Department of Defense (DoD) anticipates making a final New START force structure decision before the end of FY14, Air Force efforts are well underway to eliminate treaty-accountable "phantoms," which are ICBM silos and bombers no longer used to perform the nuclear mission. To date, we have completed elimination of 50 empty Peacekeeper ICBM silos and 39 non-operational B-52Gs, as well as modification of two B-52H ground maintenance trainers. In addition, the procurement of conversion kits necessary to render B-52Hs conventional-only is on schedule.

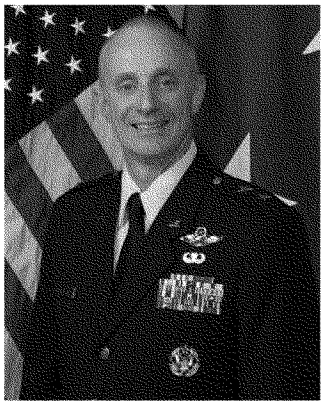
Closing:

Thank you for the opportunity to share the Air Force's views on Nuclear Deterrence Operations. Our focus on continually improving the nuclear mission—particularly through our support and development of the Airmen entrusted with carrying out that mission—is ongoing, and will remain one of the Air Force's top priorities.

BIOGRAPHY

UNITED STATES AIR FORCE

MAJOR GENERAL GARRETT HARENCAK



Maj. Gen. Garrett Harencak is Assistant Chief of Staff for Strategic Deterrence and Nuclear Integration, Headquarters U. S. Air Force, Washington D.C. General Harencak is responsible to the Secretary and Chief of Staff of the Air Force for focus on Nuclear Deterrence Operations. He advocates for and oversees stewardship of Air Force nuclear weapon systems. In addition, he integrates the organizing, training and equipping of the Air Force's nuclear mission, and engages with joint and interagency partners for nuclear enterprise solutions.

General Harencak entered the Air Force in 1983 as a graduate of the U.S. Air Force Academy. His assignments include aircraft command of the B-52; instructor pilot and squadron command in the B-1B; and service as aide to the Commander of U.S. Central Command. He also directed the Headquarters U.S. Air Force Executive Secretariat, and served as Deputy Director of Requirements at Headquarters Air Combat Command. General Harencak commanded the 7th Bomb Wing at Dyess AFB, Texas, and the 509th Bomb Wing at Whiteman AFB, Mo.

Before his current assignment, he was the commander, Air Force Nuclear Weapons Center, Kirtland Air Force Base, N.M.

EDUCATION

1983 Bachelor of Science degree, U.S. Air Force Academy, Colorado Springs
1988 Squadron Officer School, Maxwell AFB, Ala.
1991 Master of Science degree, Abilene Christian University, Texas
1994 Air Command and Staff College, Maxwell AFB, Ala.
2002 Master of Science degree, Air War College, Maxwell AFB, Ala.

ASSIGNMENTS

1. July 1983 - July 1984, student, undergraduate pilot training, Reese AFB, Texas

2. July 1984 - December 1984, student, B-52 combat crew training, Castle AFB, Calif.
3. December 1984 - September 1989, co-pilot, standards and evaluations pilot, and aircraft commander, 97th Bomb Wing, Eaker AFB, Ark.
4. September 1989 - August 1993, aircraft commander, instructor pilot and evaluator pilot, 96th Bomb Wing, Dyess AFB, Texas
5. August 1993 - June 1994, student, Air Command and Staff College, Maxwell AFB, Ala.
6. June 1994 - October 1997, action officer and aide-de-camp to Commander in Chief, U.S. Central Command, MacDill AFB, Fla.
7. October 1997 - June 2001, instructor pilot and operations officer, 9th Bomb Squadron, and commander, 28th Bomb Squadron, Dyess AFB, Texas
8. June 2001 - June 2002, student, Air War College, Maxwell AFB, Ala.
9. June 2002 - June 2003, Director, Executive Review Secretariat, Headquarters U.S. Air Force, Washington, D.C.
10. June 2003 - August 2004, Vice Commander, 7th Bomb Wing, Dyess AFB, Texas
11. August 2004 - July 2006, Commander, 7th Bomb Wing, Dyess AFB, Texas
12. July 2006 - September 2007, Deputy Director of Requirements, Headquarters Air Combat Command, Langley AFB, Va.
13. September 2007 - March 2009, Commander, 509th Bomb Wing, Whiteman AFB, Mo.
14. March 2009 - January 2011, Principal Assistant Deputy Administrator for Military Application, Office of Defense Programs, National Nuclear Security Administration, Department of Energy, Washington, D.C.
15. January 2011 - February 2013, Commander, Air Force Nuclear Weapons Center, Kirtland AFB, N.M.
16. March 2013 - present, Assistant Chief of Staff, Strategic Deterrence and Nuclear Integration, Headquarters U.S. Air Force, Washington, D.C

SUMMARY OF JOINT ASSIGNMENTS
1. June 1994 - August 1995, action officer, Operations Directorate (J3), U.S. Central Command, MacDill AFB, Fla., as a major
2. August 1995 - October 1997, aide-de-camp to the Commander, U.S. Central Command, MacDill AFB, Fla., as a major
3. March 2009 - January 2011, Principal Assistant Deputy Administrator for Military Application, Deputy Administrator for Defense Programs, National Nuclear Security Administration, Department of Energy, Washington, D.C., as a brigadier general

FLIGHT INFORMATION
Rating: Command pilot
Flight hours: More than 3,000 hours
Aircraft flown: T-37, T-38, B-52G, B-1B and B-2

MAJOR AWARDS AND DECORATIONS
Distinguished Service Medal
Defense Superior Service Medal
Legion of Merit with oak leaf cluster
Defense Meritorious Service Medal
Meritorious Service Medal with oak leaf cluster
Air Force Commendation Medal

Air Force Achievement Medal
Army Achievement Medal
Combat Readiness Medal with oak leaf cluster
National Defense Service Medal with bronze star
Armed Forces Expeditionary Medal

EFFECTIVE DATES OF PROMOTION
Second Lieutenant June 1,1983
First Lieutenant June 1, 1985
Captain June 1, 1987
Major March 1, 1994
Lieutenant Colonel Jan. 1, 1998
Colonel June 1, 2003
Brigadier General Aug. 2, 2008
Major General June 4, 2012

(Current as of June 2013)

Statement of Admiral John M. Richardson
Deputy Administrator
Office of Naval Reactors
National Nuclear Security Administration
U.S. Department of Energy
on the
Fiscal Year 2015 President's Budget Request
Before the
Subcommittee on Strategic Forces
House Committee on Armed Services

April 8, 2014

Chairman Rogers, Ranking Member Cooper, and Members of the Subcommittee, I come before you today to present the President's FY 2015 Budget Request for the Department of Energy's (DOE) National Nuclear Security Administration (NNSA).

Naval Reactors' request for FY15 is $1.377 billion, an increase of $282 million (26 percent) over the FY14 enacted funding level. The requested funding permits Naval Reactors to support the design, construction, operation, maintenance and disposal of the U.S. Navy's nuclear-powered fleet. This Fleet includes 55 attack submarines, 14 ballistic missile submarines, 4 guided missile submarines, and 10 aircraft carriers, or over 40 percent of the U.S. Navy's major combatants. The program also operates two nuclear powered land-based prototypes to conduct research and development, and when coupled with two Moored Training Ships, train over 3000 Sailors per year for entry into the nuclear fleet. Over 15,000 nuclear-trained Navy sailors safely maintain and operate the propulsion plants in nuclear powered warships, which operate in support of U.S. national interests.

The FY15 budget request supports three national priority projects and the technical support base. The projects are:

- Designing a new reactor plant for the OHIO-class SSBN Replacement
- Refueling the Research and Training Reactor in New York
- Recapitalizing the spent fuel handling infrastructure in Idaho

Naval Reactors has requested an increase in funding in FY15 to support these projects, and to fund necessary maintenance, equipment, construction, and reactor technology development in the technical support base that have been delayed or deferred due to appropriation shortfalls over the last five years.

Supporting the nuclear-powered fleet to safely and reliably protect our national interests while forward deployed requires that Naval Reactors maintain a substantial technical base - laboratories, training reactors and spent fuel handling capability – to anticipate and immediately respond to fleet problems before they become operationally limiting. This technical base thoroughly and quickly evaluates all fleet technical issues that arise while also supporting design,

manufacture, operation, maintenance, and development of improved technologies. Ultimately, this technical base and laboratory infrastructure ensures the safety of the crew and the public without impacting the mission of our nuclear-powered fleet. Uncompromising and timely support for safe nuclear fleet operation continues to be the highest priority for Naval Reactors.

Over the last 5 years, Naval Reactors' appropriation has been below requirements by over $450M. For example, in FY14, Naval Reactors was funded $151M below the request. As a result, Naval Reactors will be required to shut down one of the two prototype reactor plants in upstate New York during the second quarter of FY15 due to insufficient maintenance funding. This shutdown results in 450 sailors that will not be trained and will not be sent to the Fleet next year. This directly translates to more work at sea and in port for our nuclear-trained sailors further stressing them and their families. This reactor will remain shut down until this maintenance can be performed. The funding shortage has also made impossible the purchase of vital capital equipment and postponed infrastructure improvements, most notably defunding High Performance Computing capacity that is needed to deliver the OHIO-class Replacement reactor design on time and to support the existing fleet. Cancelling this computer purchase in FY14 has resulted in at least a 6-month delay to reactor core manufacturing, impacting the OHIO-class replacement lead-ship construction schedule.

Another portion of the requested increase in funding is required to support an increased level of effort for designing a new reactor plant for the OHIO-class SSBN Replacement. Activity this year includes reactor plant design and component development to support procurement of long lead components starting in FY19. Progress in these areas in FY15 will ensure the cost of those components is controlled as the program moves forward to construction beginning in FY21.

Related to OHIO-class Replacement, the FY15 request continues to progress the Land-based Prototype Refueling Overhaul in upstate New York. In FY14 and FY15, Naval Reactors continues the core manufacturing development work needed for the Refueling Overhaul which also enables timely construction of the life-of-ship core for OHIO-class Replacement and reduces cost and schedule risk. Further plant service life engineering design will be completed in FY15 to ensure that the Land-based Prototype plant overhaul, performed concurrently with refueling (that starts in FY18), supports 20 additional years of research, development and training in upstate New York.

In addition to underfunding operations and infrastructure activities described above, the FY14 appropriation again provided no funds to initiate preliminary design for the Spent Fuel Handling Recapitalization Project (SFHP). This project, already delayed by two years, is needed to replace the aging facility in Idaho that processes our spent naval nuclear fuel from aircraft carriers and submarines. This processing includes receipt, preparation, temporary storage, and packaging of naval spent nuclear fuel for dry storage and disposal. The new SFHP is urgently required for three primary reasons:

1. The existing Expended Core Facility (ECF) is more than 55 years old and the water pool that stores naval spent nuclear fuel is the oldest pool of its type in the nation. This old facility is showing accelerating signs of deterioration, including leaking water pool walls and cracked floors. While the ECF continues to be maintained and operated in a safe and

environmentally responsible manner, repair and refurbishment actions required to sustain operations in the ECF are costly and becoming more expensive each year. The risk associated with the degrading condition of the ECF is exacerbated, not only by the delay in bringing on the new SFHP facility, but also because the FY14 shortfall in operations and infrastructure reduced funding for maintenance on the existing ECF. Any disruption to operations in processing naval spent nuclear fuel at the ECF would require costly and time-consuming emergent measures, and would directly impact Naval Reactors' ability to support the Navy's nuclear-powered fleet refueling and defueling schedules.

2. The new SFHP facility is required to receive, prepare, temporarily store, and package full-length aircraft carrier spent nuclear fuel. The current ECF facility cannot handle this fuel. In order to prevent impact to the operating fleet due to the delay in bringing SFHP on line, the Navy must procure extra, otherwise unnecessary, M-290 shipping containers that will be used to temporarily store naval spent nuclear fuel, to return aircraft carriers to sea until the new SFHP can be built. In addition to inherent cost increases associated with delaying the SFHP by two years these extra containers will cost $200M.
3. The SFHP is required to ensure Naval Reactors meets its commitments to the State of Idaho for processing spent naval nuclear fuel. Without this new facility, Naval Reactors' ability to process fuel in the timeframe directed by agreements with the State will be jeopardized.

The FY15 request for the SFHP – $145M – is essential to the operational availability of aircraft carriers and submarines. Without new start authority and funding in FY15, the project will be further delayed, requiring extended operation of an aging facility and incurring additional unnecessary shipping container costs of approximately $100M – $150M for each year of delay.

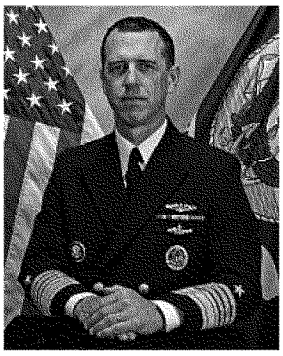
At the requested funding level, Naval Reactors can safely maintain and oversee the nuclear-powered fleet. Naval Reactors can also continue to progress the OHIO-class Replacement and Land-based Prototype Refueling Overhaul, renew progress on the Spent Fuel Handling Recapitalization Project, and maintain its environmental responsibilities.

Naval Reactors has a history of fiscal responsibility in its day-to-day operations, and continues to look for cost saving initiatives to further drive financial efficiencies at its laboratories. For example, Naval Reactors consolidated its laboratory and procurement prime contractors into single contracts, resulting in savings of $24M per year. Naval Reactors developed a more efficient assembly process for the USS GERALD R FORD reactor core, saving $50M in ship construction. Careful maintenance of refueling equipment has enabled Naval Reactors to save $19M in repurchases that would have been required for the upcoming prototype refueling. Aggressive management has enabled Naval Reactors to save $6M over the life of a Major Construction Project in Idaho, and we look forward to similar successes in other construction projects. Finally, the new life-of-ship core that will fuel the OHIO-class Replacement will enable the Navy to save an estimated $40B over the life of that class of ships. The continued cost performance and cost reduction is greatly enhanced by stability and sustained commitment to these long-term, multi-year efforts. The uncertainty and instability of the past years has resulted in significant disruption, distraction, and increased costs. Full funding in FY15 would send a strong signal about the commitment to the critical work Naval Reactors is planning to perform.

With the help of Congress, Naval Reactors is committed to executing our projects on time and on budget, and to continue to search for the safest and most cost effective way to support the nuclear fleet.

United States Navy
Biography

Admiral John M. Richardson
Director, Naval Nuclear Propulsion Program



Admiral Richardson graduated from the U.S. Naval Academy in 1982 with a Bachelor of Science in Physics. He also holds Masters Degrees from the Massachusetts Institute of Technology and the Woods Hole Oceanographic Institution, and the National War College.

Richardson served in USS Parche (SSN 683), USS George C. Marshall (SSBN 654) and USS Salt Lake City (SSN 716). He commanded USS Honolulu (SSN 718) in Pearl Harbor, Hawaii and was awarded the James Bond Stockdale Leadership Award.

Richardson also served as Commodore of Submarine Development Squadron 12 in Groton, Connecticut; Commander, Submarine Group 8; Commander, Submarine Allied Naval Forces South; Deputy Commander, U.S. 6th Fleet; Chief of Staff, U.S. Naval Forces Europe and U.S. Naval Forces Africa, in Naples, Italy; and Commander, Naval Submarine Forces in Norfolk, Virginia.

His staff assignments include duty in the Attack Submarine Division on the Chief of Naval Operations staff; Naval Aide to the President; prospective commanding officer instructor for Commander, Submarine Forces, U.S. Pacific Fleet; Assistant Deputy Director for Regional Operations on the Joint Staff; and Director of Strategy and Policy at U.S. Joint Forces Command.

Richardson assumed his current duties as Director, Naval Nuclear Propulsion Program on 2 November 2012.

Richardson served on teams that have been awarded the Presidential Unit Citation, the Joint Meritorious Unit Citation, the Navy Unit Citation, and the Battle Efficiency E Awards.

Updated: 8 November 2012

Written Statement of David Huizenga
Acting Assistant Secretary for Environmental Management
United States Department of Energy
Before the Subcommittee on Strategic Forces
Committee on Armed Services
United States House of Representatives

April 8, 2014

Good afternoon, Mr. Chairman, Ranking Member Cooper, and Members of the Subcommittee. I am pleased to be here today to represent the Department of Energy's (DOE) Office of Environmental Management (EM). I would like to provide you with an overview of the EM program, key accomplishments during the past year and what we plan to accomplish under the President's $5.62 billion Fiscal Year 2015 budget request.

Overview of the EM Mission

EM's mission is to complete the safe cleanup of the environmental legacy resulting from five decades of nuclear weapons development and government-sponsored nuclear energy research. This year is an important milestone year for EM. Fiscal Year (FY) 2014 marks 25 years of solving the legacy environmental problems from the Manhattan Project and Cold War. This environmental legacy includes over 90 million gallons of radioactive wastes stored in aging tanks, thousands of tons of spent (used) nuclear fuel (SNF), over ten thousand containers of excess plutonium and uranium, over five thousand contaminated facilities, millions of cubic meters of contaminated soil and billions of gallons of contaminated groundwater. EM was originally charged with the responsibility of cleaning up 107 sites across the country with a total area equal to Rhode Island and Delaware combined.

In the 25 years since it was created, EM has made significant progress in this cleanup mission, completing 91 sites and significant portions of the remaining 16. Since 1989, EM has completed almost $144 billion worth of cleanup work. Sites like Fernald in Ohio and Rocky Flats in Colorado, both of which once housed large industrial complexes, are now wildlife preserves that are also available for recreational use. At the Idaho National Laboratory, we have decommissioned and demolished more than two million square feet of excess facilities, and removed all EM special nuclear material (e.g., enriched uranium) from the state. At Savannah River, we have produced over 3,700 canisters of vitrified high-level waste and closed six of the site's underground storage tanks.

Across the EM complex, our progress in footprint reduction is significant. Since EM began tracking this performance goal in 2009, we have achieved a footprint reduction of roughly 74 percent. We began tracking with approximately 931 square miles. Now, we are down to less than 300 square miles. And progress continues. These are just a few examples of our significant achievements over the past quarter century.

EM Cleanup Objectives and Priorities

EM continues to pursue its cleanup objectives guided by three overarching principles. Most importantly, EM will continue to discharge its responsibilities by conducting cleanup within a "Safety First" culture that integrates environmental, safety, and health requirements and controls into all work activities. We are proud of our safety record, which shows injury rates that are significantly lower than the averages in comparable industries; these rates continue to fall thanks to ongoing efforts to strengthen our organizational safety culture.

After safety, we are guided by a commitment to comply with our regulatory and other legal obligations, and to be good stewards of the financial resources entrusted to us. We manage these priorities within a framework of nuclear safety orders, legally binding cleanup agreements, and best business practices. We focus the majority of our resources on the materials that contain the highest concentrations of radionuclides and other hazardous materials and wastes. In addition to these priorities, EM is committed to investing in the development and deployment of sound technology as a way to reduce costs and fulfill our critical mission.

Before discussing key recent and planned accomplishments, I want to update you on the situation at the Waste Isolation Pilot Plant (WIPP) in New Mexico. As I am sure you know, we have had two recent safety events at WIPP. The first occurred February 5th when flammable residues on the surface of a salt truck came into contact with a heat source and ignited. The second, which occurred late on the night of February 14th, was a radioactive release event at WIPP, in which some contamination, primarily americium, became airborne underground. The facility is equipped with a continuous air monitor, which detected the contamination and triggered the underground ventilation system to begin filtering air before it left the underground facility. The filters are performing as designed.

To date, preliminary sampling results taken from on and around the site indicate the underground contamination event has not created any health risks for workers or the public. This includes those workers who tested positive for contamination, which was slightly above normal background levels. On April 2, we sent two successive teams into the WIPP underground to conduct preliminary investigations in a portion of the non-disposal area. As anticipated, the teams found no contamination in the immediate area. This was an important step toward additional entries into the mine to allow for further exploration. In the meantime, the event has the potential to affect other DOE sites that were preparing transuranic wastes for disposal at WIPP. We are working to assess potential impacts and make contingency plans to mitigate those impacts to the extent possible.

We take both events very seriously and are committed to identifying, acknowledging and fixing any underlying shortfalls in our policies and processes. I am proud of the way the DOE team is responding to these events. In the wake of the radioactive release event, everyone has been working together to assess the situation, develop solutions and identify the lessons that can be learned.

Key Recent and Near-Term Accomplishments

I would like to take this opportunity to highlight a number of EM's most recent accomplishments, as well as those we plan to accomplish in the remainder of FY 2014.

Cleanup activities – We continue to make significant progress in our transuranic waste disposal program. For instance, in 2013 we shipped approximately 2,500 cubic meters of transuranic waste to WIPP from the Idaho National Laboratory's Advanced Mixed Waste Treatment Project, which has logged more than 15.1 million work hours since the last injury or illness resulting in time away from work. WIPP has now received more than 11,000 shipments and permanently disposed of more than 89,000 cubic meters of transuranic waste. At the Savannah River Site, we have produced over 3,700 canisters of vitrified high-level waste, converting it to a solid-glass form safe for long-term storage and permanent disposal. We have now completed over 45 percent of the site's high-level-waste mission, and recently closed two more underground storage tanks a year ahead of schedule, bringing the total number of closed tanks to six.

Contract and Project Management – Our cleanup progress depends in large part on a broad array of contractors, as well as the successful planning, construction and operation of large, often first-of-a-kind, projects and facilities. We continue to emphasize continuous improvement in our contract and project management by, for example, requiring more upfront planning, ensuring federal project directors and contracting officers are well trained, improving our cost-estimating capabilities, conducting more frequent project reviews, selecting proper contract types, and tying fees to final outcomes. Our efforts continue to generate significant, positive results. For instance, we negotiated a contract modification for the Salt Waste Processing Facility at the Savannah River Site that includes a cap on completion costs, provides incentives for cost savings, and gives DOE a share of any savings achieved. In a separate project at the Savannah River Site, we recently completed two additional low-level salt-waste disposal units seven months ahead of schedule and for $8 million less (about 10 percent) than the anticipated total cost of $76.5 million. We are improving our management of the Waste Treatment and Immobilization Plant (WTP) project at Hanford, including holding the contractor accountable for self-identification of issues to help ensure resolution as early as possible.

Highlights of the FY 2015 Budget Request

The FY 2015 budget request for EM is a net $5.62 billion. The request includes the proposed reauthorization of the Uranium Enrichment Decontamination & Decommissioning Fund and the defense deposit of $463 million. The budget request for EM is comprised of $4.86 billion for defense environmental cleanup activities (not including the fund deposit of $463 million), $226 million for non-defense environmental cleanup activities, and $531 million for Uranium Enrichment Decontamination and Decommissioning Fund cleanup activities. With the requested funding, the EM program will continue making progress in the radioactive liquid waste treatment

program, approach a successful end to the legacy transuranic waste mission, and continue to make significant progress in the decontamination and demolition of the thousands of buildings and supporting infrastructure that occupy our remaining cleanup sites.

To provide just a few specific highlights, under the President's FY 2015 budget request the EM program will complete the treatment of 900,000 gallons of liquid radioactive waste at Idaho, emptying the last four of the site's aging waste storage tanks. The FY 2015 budget request supports the ongoing construction of the Waste Treatment and Immobilization Plant (WTP) to process and immobilize the Hanford tank waste in a solid glass form safe for permanent disposal. Consistent with the Department's objective to immobilize waste as soon as practicable while resolution of technical issues continues, the FY 2015 budget includes support for analysis and preliminary design of a Low Activity Waste Pretreatment System.

At Hanford, we will complete cleanup of the bulk of the River Corridor's more than 500 facilities, leaving the 324 Facility, as well as the 618-11 Burial Ground and 300-296 Waste Site, as the primary remaining cleanup projects to be addressed after FY 2015. Depending on our ability to restore full operations at WIPP quickly or institute other mitigation measures, we will also achieve significant milestones in the legacy transuranic waste program, pursuing 100 percent completion at Savannah River and reaching 90 percent completion at Idaho, 88 percent completion at Oak Ridge, and 77 percent completion at Los Alamos.

Budget Authority and Planned Accomplishments by Site

Idaho National Laboratory, Idaho
(Dollars in Thousands)

FY 2014 Enacted	FY 2015 Request
$391,993	$372,103

Key Accomplishments Planned for FY 2015

- Complete the treatment of 900,000 gallons of sodium-bearing radioactive waste, the last of the radioactive liquid waste at the Idaho site
- Initiate activities to clean and close the last four of the site's radioactive liquid waste tanks
- Complete the exhumation of transuranic waste in the seventh of nine areas in the subsurface disposal area and ship the waste to the Waste Isolation Pilot Plant, achieving a completion rate equal to about 58 percent of the project's total land area
- Continue processing contact-handled transuranic (CH-TRU) waste at the Advanced Mixed Waste Treatment Project, bringing total CH-TRU prepared in FY 2015 for offsite disposal to 4,500 cubic meters

- Continue groundwater monitoring and subsurface investigations, analyzing contaminants and transport mechanisms to the Snake River Aquifer
- Continue retrieval and onsite transfer of Experimental Breeder Reactor II fuel and receipt of Domestic Research Reactor and Foreign Research Reactor Fuel

Oak Ridge Site, Tennessee
(Dollars in Thousands)

FY 2014 Enacted	FY 2015 Request
$429,541	$384,975

Key Accomplishments Planned for FY 2015

- Continue shipments expected to begin later this fiscal year to Nevada of Consolidated Edison Uranium Solidification Project material from the uranium-233 inventory in Building 3019
- Reach approximately 90 percent completion in the site's transuranic waste disposition mission
- Complete the preliminary design for the Outfall 200 Mercury Treatment Facility, while continuing to develop the techniques and technologies needed to characterize and remediate mercury in the environment
- Continue design and prepare for construction of the Sludge Buildout project at the Transuranic Waste Processing Center

Savannah River Site, South Carolina
(Dollars in Thousands)

FY 2014 Enacted	FY 2015 Request
$1,255,430	$1,282,302

Key Accomplishments Planned for FY 2015

- Immobilize and dispose of 1,000,000 gallons of liquid tank waste
- Produce 120 to 130 additional canisters of vitrified high-level waste at the site's Defense Waste Processing Facility, bringing cumulative production to over 50 percent completion of the site's high-level waste mission
- Continue packaging and shipping surplus plutonium offsite

- Continue processing aluminum-clad spent (used) nuclear fuel in H-Canyon and begin processing Canadian Highly-Enriched Uranium Liquid
- Continue to receive non-U.S. origin material from foreign countries in support of the Global Threat Reduction Initiative program
- Continue receipt of Foreign Research Reactor/Domestic Research Reactor spent (used) nuclear fuel

Richland Operations Office, Washington
(Dollars in Thousands)

FY 2014 Enacted	FY 2015 Request
$1,012,620	$914,301

Key Accomplishments Planned for FY 2015

- Complete the cleanup of the bulk of the River Corridor's more than 500 facilities, leaving the 324 Building, 618-11 Burial Ground and 300-296 Waste Site as the primary projects to be addressed after FY 2015
- Continue progress toward Plutonium Finishing Plant cleanout and demolition to slab-on-grade
- Continue to conduct, integrate and optimize site-wide groundwater and soil cleanup activities
- Continue operation of the Canister Storage Building and Waste Storage Encapsulation Facility
- Continue progress toward removal of contaminated sludge from the K West Fuel Storage Basin, including continued progress on the K West Basin Sludge Treatment Project line-item construction project
- Complete disposition of surplus facilities in the 300 Area (excluding 324 Building and ancillary buildings)

Office of River Protection, Washington
(Dollars in Thousands)

FY 2014 Enacted	FY 2015 Request
$1,210,216	$1,235,000

Key Accomplishments Planned for FY 2015

- Continue construction of the Waste Treatment and Immobilization Plant (WTP) to immobilize waste as soon as practicable while resolution of technical issues continues
- Maintain planned construction of WTP's Low Activity Waste facility, Analytical Laboratory, and Balance of Facilities, and initiate design of the infrastructure required to feed tank waste directly to the facility
- Support analysis and preliminary design of a Low Activity Waste Pretreatment System
- Complete waste retrievals in the C Tank Farm

Los Alamos National Laboratory, New Mexico
(Dollars in Thousands)

FY 2014 Enacted	FY 2015 Request
$224,789	$224,617

Key Accomplishments Planned for FY 2015

- Complete design of the hexavalent chromium pump-and-treat remedy project and begin Phase 1 operations
- Complete cleanup activities on public and Los Alamos County lands
- Obtain regulatory approval to start remedial projects in at least three on-site Material Disposal Areas (A, C and T) and complete remedial design for Material Disposal Area C
- Complete demolition of the balance of plant facilities at Technical Area 21
- Continue retrieving and processing transuranic waste from below-grade retrievable storage

Nevada National Security Site, Nevada
(Dollars in Thousands)

FY 2014 Enacted	FY 2015 Request
$61,897	$64,851

Key Accomplishments Planned for FY 2015

- Complete closure activities for 21 contaminated-soil sites
- Complete characterization activities for 6 additional contaminated-soil sites

- Support cleanup at multiple sites across the DOE complex by disposing of approximately 1,200,000 cubic feet of low-level and mixed low-level radioactive waste generated at those sites

Sandia National Laboratory, New Mexico
(Dollars in Thousands)

FY 2014 Enacted	FY 2015 Request
$2,814	$2,801

Key Accomplishments Planned for FY 2015

- Finalize and submit to the New Mexico Environment Department a Class III permit modification for regulatory closure of the Mixed Waste Landfill and transfer the landfill to long-term stewardship
- Submit updated Technical Area V Current Conceptual Model/Corrective Measures Evaluation Report to the New Mexico Environment Department
- Install up to eight new groundwater-monitoring wells at the Burn Site

Lawrence Livermore National Laboratory, California
(Dollars in Thousands)

FY 2014 Enacted	FY 2015 Request
$1,476	$1,366

Key Accomplishments Planned for FY 2015

- Complete the site-specific, baseline human-health risk assessment
- Complete groundwater-contamination fate-and-transport modeling
- Develop risk-based uranium cleanup standards for the Building 812 Operable Unit
- Evaluate available soil-remediation treatment technologies and develop remedial alternatives

Carlsbad Field Office, New Mexico
(Dollars in Thousands)

FY 2014 Enacted	FY 2015 Request
$221,170	$220,475

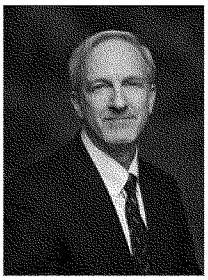
Key Accomplishments Planned for FY 2015 (*assuming timely restoration of normal operations*)

- Support transport and disposal of remote-handled and contact-handled transuranic (TRU) waste at the Waste Isolation Pilot Plant
- Continue Central Characterization Project for TRU waste at Los Alamos National Laboratory, Idaho National Laboratory, Oak Ridge National Laboratory, and the Savannah River Site
- Maintain capability for receipt and disposal for up to 26 shipments per week of contact-handled and remote-handled TRU for 41 weeks

Conclusion

Mr. Chairman, Ranking Member Sessions, and Members of the Subcommittee, I am honored to be here today representing the Office of Environmental Management. EM is committed to achieving our mission and will continue to apply innovative environmental cleanup strategies to complete work safely, on schedule, and within cost, thereby demonstrating value to the American taxpayers. Our FY 2015 request allows us to capitalize on our past investments and successes. We will make progress in the high-level-waste treatment mission, complete the cleanout and demolition of several major facilities across the complex, approach the end of our legacy transuranic waste disposition mission, and continue the significant progress we have made in the management of nuclear materials and remediation of contaminated soil and groundwater. I am pleased to answer any questions you may have.

DAVID G. HUIZENGA - ACTING ASSISTANT SECRETARY, OFFICE OF ENVIRONMENTAL MANAGEMENT



President Obama designated David G. Huizenga as the Acting Assistant Secretary for the Office of Environmental Management, effective July 20, 2011.

A nationally and internationally recognized expert in nonproliferation and nuclear waste management issues, Mr. Huizenga has over 25 years of leadership, management, and technical experience in a wide variety of programs across the Department of Energy. He began his career researching and solving some of the Environmental Management program's greatest challenges as a Pacific Northwest National Laboratory research engineer at the Hanford site in 1985. In that capacity, Mr. Huizenga worked on long-term solutions to aging single-shell tanks that were leaking radioactive waste in the soil and other activities to protect the Columbia River and developed computer-modeling tools to evaluate the long-term performance of low-level radioactive waste forms.

Mr. Huizenga played a successful leadership role for over a decade in the Office of Environmental Management, where he began as a technical advisor on waste management policy and ultimately served as a Deputy Assistant Secretary. He was instrumental in establishing complex-wide waste management and nuclear materials disposition strategies that were used to accelerate closure of the Rocky Flats Plant and the removal of special nuclear materials from Hanford and other sites. He worked closely with the Carlsbad Site Office to open the Waste Isolation Pilot Plant, the world's first deep geologic repository.

In 2002, Mr. Huizenga transferred to the National Nuclear Security Administration, where he has managed several key national security programs aimed at reducing the worldwide threat of nuclear terrorism by working cooperatively with over 100 countries to secure nuclear weapons and weapons-usable nuclear materials and enhance the detection of illicit trafficking of nuclear and other radioactive materials. From February 2002 to November 2002, Mr. Huizenga served as the Deputy Director of the Office of International Nuclear Safety and Cooperation. He then went on to serve as the Assistant Deputy Administrator for the Office of International Material Protection and Cooperation. Mr. Huizenga became the Principal Assistant Deputy Administrator for the $2.5 billion Office of Defense Nuclear Nonproliferation in January 2011.

Mr. Huizenga is well known and respected for being a consensus builder and team player both within the U.S government and in the international community. In recognition of his international credentials, Mr. Huizenga served four years as the U.S. Senior Technical Advisor on the International Atomic Energy Agency (IAEA) Radioactive Waste Advisory Committee. Working with the Department of State, he led the

technical negotiations for the 1997 IAEA Radioactive Waste and Spent Fuel Convention. He has testified numerous times before Congress on matters of international and national security.

Mr. Huizenga has a Bachelor of Science in Chemistry and a Masters in Chemical Engineering from Montana State University. He graduated as Outstanding Senior Chemist, Sigma Xi, 1980, and Outstanding Analytical Chemist, American Chemical Society, 1980. He has received Meritorious Presidential Rank Awards in 2000 and 2008 and the Secretary of Energy Gold Award in 1998.

Mr. Huizenga lives in Arlington, Virginia with his wife and two children.

TESTIMONY OF

DR. PETER S. WINOKUR, CHAIRMAN

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

SAFETY OVERSIGHT OF DEPARTMENT OF ENERGY DEFENSE NUCLEAR FACILITIES

SUBCOMMITTEE ON STRATEGIC FORCES
HOUSE ARMED SERVICES COMMITTEE

UNITED STATES HOUSE OF REPRESENTATIVES

APRIL 8, 2014

MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE:

Thank you for the opportunity to testify on nuclear safety issues at defense nuclear facilities operated by the Department of Energy (DOE), including the National Nuclear Security Administration (NNSA). DOE remains in a state of transition, with billions of dollars in construction projects and a huge portfolio of site clean-up work, as well as ongoing activities to support the nuclear weapons stockpile. The Defense Nuclear Facilities Safety Board (Board) believes it is prudent to proactively address safety issues at DOE's defense nuclear facilities to ward off threats to public health and safety. DOE needs to effectively integrate safety into the design of new facilities, improve the safety culture in their federal and contractor workforce, and strengthen the protection of workers through improvements in work planning and conduct of operations at DOE's defense nuclear facilities.

Today I will briefly discuss the Board's Fiscal Year (FY) 2015 Budget Request. I will then provide some background on the Board's mission and how it operates, followed by the Board's assessment of high-priority safety issues related to DOE defense nuclear facilities. Finally, I will address the Board's focus on management and communications.

Resource Needs of the Board

I would like to say a few words about the Board's FY 2015 Budget Request. The President's Budget Request for FY 2015 includes $30.15 million in new budget authority for the Board. This is an increase of approximately $2.15 million compared to the budget enacted in the Consolidated Appropriations Act for FY 2014. This Budget Request will

support a staffing level of 125 full-time equivalent (FTE) employees. The Board believes this level of staffing will allow the Board to (1) provide independent oversight sufficient to ensure that public and worker health and safety are adequately protected, given the current pace and scope of activities in the DOE defense nuclear complex; (2) implement improved internal controls over the Board's operations; and (3) be responsive to the Nuclear Regulatory Commission's Inspector General, who was assigned as the Board's Inspector General in the Consolidated Appropriations Act for FY 2014.

During FY 2013 and the first quarter of FY 2014, the Board reduced agency travel to defense nuclear facilities and curtailed advisory and assistance contracts because of the reduced budget authority under sequestration and the uncertainty of future funding under continuing resolutions. Travel is a vital part of fulfilling the Board's safety oversight mission. Performing oversight of field activities at DOE defense nuclear facilities is the most effective way for the Board to conduct its firsthand assessment of safety at DOE sites. Advisory and assistance contracts are likewise important to the Board as a source of very specific expertise to supplement the Board's staff's capabilities for reviews of particular safety issues. Since the enactment of the Consolidated Appropriations Act for FY 2014, the Board has been able to restore its field oversight activities and to resume obtaining outside expertise through advisory and assistance contracts. The President's Budget Request for FY 2015 increases support for field oversight activities.

Recent events at the Waste Isolation Pilot Plant (WIPP) underscore the need for the Board to carefully monitor all of DOE's defense nuclear facilities. From a distance,

waste disposal at WIPP can seem like a relatively benign operation. Yet, just this past February, an underground fire and then a release of radioactive material occurred. The Board is reviewing available information to assess the causal factors, emergency response, recovery activities, and corrective actions for both these events. Operations at the WIPP site were not performed with the rigor necessary for a hazard category 2 defense nuclear facility, especially for operations that were deemed to be nonnuclear in nature. Both the federal and contractor workforce proved unprepared for emergency response. No one was seriously hurt in either event, but these were both near misses. Since 2010, the Board has sent four letters to DOE that revealed flaws in WIPP's fire protection program, maintenance practices, activity-level work planning and execution, and electrical safety program. Our staff has followed up and has observed incremental improvements; however, some issues, particularly those that identified fire hazards and associated risks for underground operations were not adequately assessed in the facility Fire Hazard Analysis. These events illustrate that activities judged to be relatively low-risk can still have major safety consequences and correspondingly large impacts on DOE's ability to accomplish its mission, particularly when radioactive materials are involved.

The Board's budget is devoted to maintaining and supporting an expert staff of engineers and scientists -- most of whom have technical master's degrees or doctorates -- required to accomplish the Board's highly specialized work. Seventy-one percent of the Board's Budget Request for FY 2015 is for salaries and benefits, four percent is for travel and transportation (essential because of the need to physically visit defense nuclear facilities), and three percent is for technical expert contracts. In all, approximately 80

percent of the Board's obligations are directly related to technical oversight. This distribution will be adjusted to add several staff to perform function necessary to efficiently address the reviews and audits by the NRC-IG.

As you will see in my assessment of high-priority safety issues in this testimony, the scope of the Board's mission continues to evolve and grow. The Board is required to provide safety oversight of increasingly complex, high-hazard operations critical to national defense, including assembly and disassembly of nuclear weapons, fabrication of plutonium pits and weapon secondaries, production and recycling of tritium, criticality experiments, subcritical experiments, and a host of activities to address the radioactive legacy resulting from 70 years of operations. Additionally, continued uncertainty regarding the path forward for modernizing uranium capabilities at the Y-12 National Security Complex and plutonium capabilities at Los Alamos National Laboratory means that the Board is required to provide safety oversight both of ongoing work in existing facilities that do not meet modern safety standards and of the safety aspects of alternate plutonium and uranium strategies that will be necessary to support the nuclear weapons stockpile in future years.

In a joint report to Congress on July 19, 2007, the Board and DOE agreed that early integration of safety in design is both crucial and cost-effective. Moreover, it avoids schedule delays as compared to the case when safety issues are recognized late in the design process (or worse, after construction has commenced). The failure to identify design flaws that could impact public and worker health and safety early in the design process can significantly increase project costs due to the price of re-engineering and the

need to make post-construction modifications to complex DOE defense nuclear facilities. Such flaws have in the past typically increased costs and delayed operations while corrections were made. The Board has been committed to working with DOE to effect early integration of safety in design with such projects as the Uranium Capabilities Replacement Project, also known as UPF. However, as you know, that project is undergoing major restructuring due to cost growth not related to safety issues. Nevertheless, with DOE's design and construction costs going forward on the order of $20 billion, the Board's FY 2015 Budget Request will provide cost-effective oversight while protecting public and worker health and safety.

The Board employs a similar approach to safety oversight of DOE's technology development for facility systems, processing equipment, and other technologies that have safety ramifications. The Board brings attention to such technologies to ensure that DOE demonstrates that they are fully mature and capable of performing their intended safety functions before they are implemented in a defense nuclear facility. For example, the Board's Recommendation 2010-2, *Pulse Jet Mixing at the Waste Treatment and Immobilization Plant*, addressed safety concerns related to a novel mixing technology planned for use in the new facilities being built to pretreat and immobilize high-level waste at the Hanford Site. The Board applies the same principles of oversight to work planning and control and the safe conduct of operations—when hazards are recognized while the procedure for an operation is being developed, safety controls can be built into the process, allowing the operation to be conducted safely and efficiently.

Statutory Mission and Operations of the Board

The Board was created by Congress in 1988. The statutory mission of the Board is to *provide independent analysis, advice, and recommendations to the Secretary of Energy to inform the Secretary, in the role of the Secretary as operator and regulator of the defense nuclear facilities of the Department of Energy, in providing adequate protection of public health and safety at such defense nuclear facilities*. The Atomic Energy Act of 1954, as amended, currently establishes two categories of facilities subject to Board jurisdiction: (1) those facilities under the Secretary of Energy's control or jurisdiction, operated for national security purposes that produce or utilize special nuclear materials; and (2) nuclear waste storage facilities under the control or jurisdiction of the Secretary of Energy. The Board's jurisdiction does not extend to facilities or activities associated with the Naval Nuclear Propulsion Program, offsite transportation of nuclear explosives or materials, the U.S. Enrichment Corporation, facilities developed pursuant to the Nuclear Waste Policy Act of 1982 and licensed by the Nuclear Regulatory Commission, or any facility not conducting atomic energy defense activities.

Under its enabling statute, 42 U.S.C. § 2286 *et seq*., the Board is responsible for independent oversight of all programs and activities impacting public health and safety within DOE's defense nuclear facility complex—a complex that has served to design, manufacture, test, maintain, and decommission nuclear weapons, as well as other national security purposes. To effectuate its oversight mission, the Board is statutorily mandated to review the content and implementation of DOE standards, facility and system designs, and events and practices at DOE defense nuclear facilities that the Board determines have

adversely affected, or may adversely affect, public health and safety. The Board is further authorized to access and analyze any information related to a DOE defense nuclear facility.

In support of its mission, the Board may conduct investigations, issue subpoenas, hold public hearings, gather information, conduct studies, establish reporting requirements for DOE, and take other actions in furtherance of its review of health and safety issues at DOE defense nuclear facilities. These powers facilitate accomplishment of the Board's primary function to independently oversee the safety of DOE's defense nuclear facilities. The Secretary of Energy is required to cooperate fully with the Board and provide the Board with ready access to such facilities, personnel, and information the Board considers necessary to carry out these responsibilities.

Board Safety Recommendations

The Board is required to make recommendations to the Secretary of Energy that the Board believes are necessary to ensure adequate protection of public health and safety. In this regard, the Board's actions are distinguishable from a regulator because the Secretary may accept or reject the recommendations in whole or in part. To enhance collaboration between the Board and DOE, Congress revised the Board's enabling legislation in the National Defense Authorization Act for FY 2013 to require the Board to provide its safety recommendations to the Secretary of Energy in "draft" form, and to allow the Secretary 30 days to comment on the draft recommendations prior to finalization and publication in the Federal Register.

Under its statute, the Board must consider the technical and economic feasibility of implementing its recommended measures. The Board is not required to refrain from issuing a safety recommendation based on either consideration. Nonetheless, in formulating its recommendations to the Secretary of Energy, the Board is confident that it has considered the technical and economic feasibility of each of its recommendations. On February 14, 2013, the Board issued a report to the congressional defense committees regarding how the Board considers the technical and economic feasibility of implementing its recommended measures.

Another revision to the Board's enabling legislation in the National Defense Authorization Act for FY 2013 directed the Board to "specifically assess risk (whenever sufficient data exists)" in making its recommendations. Consistent with commercial nuclear industry practices, an assessment of risk involves an evaluation of (1) what can go wrong, (2) how likely it is, and (3) what its consequences might be. In performing a risk assessment, the Board takes many factors into account including: (1) proximity to collocated workers and the offsite public; (2) quantity, chemical composition, physical form, and radiological characteristics of material stored or handled in the facility; (3) mechanisms for release of materials (e.g., earthquakes, tornados, chemical reactions, fires, explosions, and other potential energy sources), nuclear criticality, highly energetic violent reactions involving nuclear explosives, and nuclear detonations; and (4) complexity of safety controls and the degree of reliance on active safety systems or administrative controls instead of passive design features.

The Board is very mindful of the need for efficient and cost-effective solutions to safety problems at defense nuclear facilities and performs independent oversight of DOE's evaluation of options for mitigating hazards. These options may include factors such as the remaining life of the facilities, schedules for replacing them, and means to mitigate disruptions to ongoing operations that may result from recommended safety improvements. However, the Board has no authority to specify a particular solution; that authority is the Secretary's alone.

Under the Board's statute, the Secretary of Energy may "accept" a Board recommendation but make a determination that its implementation is impracticable because of budgetary considerations or because the implementation would affect the Secretary's ability to meet the annual nuclear weapons stockpile requirements. The Secretary must report any such decision to the President and to various congressional committees..

If the Board were to determine that a recommendation relates to an imminent or severe threat to public health and safety, the Board would be required to transmit the recommendation to the President, as well as to the Secretaries of Energy and Defense. After receipt by the President, the Board would also be required to make such recommendations public and transmit them to the Committees on Armed Services, Appropriations, and Energy and Commerce of the House of Representatives and the Committees on Armed Services, Appropriations, and Energy and Natural Resources of the Senate. Throughout its history, the Board has never made a determination of imminent or severe threat to the public.

Board's Evaluation of DOE's Activities at Defense Nuclear Facilities

The Board evaluates DOE's activities at defense nuclear facilities in the context of Integrated Safety Management (ISM). The core functions of ISM are straightforward and have been institutionalized in policy by DOE in response to the Board's recommendations. They are:

- Define the scope of work;
- Analyze the hazards;
- Develop and implement hazard controls;
- Perform work within controls; and
- Provide feedback and continuous improvement.

Properly applied, ISM allows management to institutionalize guiding principles that form the basis for a safety-conscious and efficient organization, including:

- Balanced mission and safety priorities;
- Line management responsibility for safety;
- Competence commensurate with responsibility; and
- Identification of safety standards and requirements appropriate to the task at hand.

ISM is a process-based approach in which safety considerations are built into activities as they are planned and into facilities as they are designed. ISM is far more effective than attempting to add safety measures after an activity is already planned or after a facility's basic design is established. In safety space, ISM is also far more effective than an outcome or performance-based approach in which an inadequately

planned activity results in an undesirable outcome. In a defense nuclear facility, that undesirable outcome could be a catastrophic event that cripples the facility and harms the workers and the public. It is critical to avoid the low-probability, high-consequence event that could destroy a facility or nuclear security program. A performance-based outcome approach may appear successful on the surface, but underlying weakness in processes may lead to serious accidents and unwanted results when consequences are simply unacceptable.

When properly implemented at all levels, ISM results in (1) facility designs that sufficiently address hazards, (2) operating procedures that are safe and productive, and (3) feedback that drives continuous improvement in both safety and efficiency.

The Board does not impose requirements on DOE's capital projects or other activities. The Board operates by ensuring that DOE identifies a satisfactory set of safety requirements for a project or operation, and then by evaluating DOE's application of those requirements. The safety requirements are embodied in DOE's directives and/or invoked in national consensus standards. For example, the requirement that facilities withstand seismic events and other natural phenomena hazards is a DOE requirement that is implemented in a graded fashion, including consideration of the hazard associated with the facility. The requirement to assess the probabilistic seismic hazard analysis for DOE facilities built in seismically active areas every decade is likewise a DOE requirement. Up-to-date analyses incorporate the best information available about the earthquake hazards at each site, and are vital to ensure that all DOE facilities—both existing and proposed—provide adequate protection for seismic events.

The Board's overriding priority is to protect the public, including workers. In order to provide the most efficient and effective oversight, the Board considers the risk of a facility or activity in prioritizing its oversight, as described above in the discussion of the Board's process for developing safety recommendations. Those risk factors serve as inputs to calculations performed by the Board and DOE that provide a measure of risk to the public and workers following potential releases of radiological material. More specifically, these calculations estimate doses to the public and workers resulting from natural phenomena hazards and operational accidents and are used to define the types of controls necessary to mitigate or prevent their harmful consequences.

High-Priority Nuclear Safety Issues at DOE and NNSA Defense Nuclear Facilities

I would like to highlight the following safety issues as particularly important to ensuring that the defense nuclear complex can safely accomplish its missions:

- Earthquake Hazard at Los Alamos National Laboratory;
- Criticality Safety at the Los Alamos Plutonium Facility;
- Early Integration of Safety in Design;
- Revision of DOE Standard 3009, *Preparation Guide for U.S. Department of Energy Nonreactor Nuclear Facility Documented Safety Analyses*;
- ISM at the Activity Level;
- Longevity of High-Level Waste Storage Systems; and
- Emergency Preparedness, Response, and Recovery.

Earthquake Hazard at Los Alamos National Laboratory

The risk posed by the Plutonium Facility (PF-4) at the Los Alamos National Laboratory remains among the Board's greatest safety concerns. PF-4 was designed and constructed in the 1970s, and its structure lacks the ductility and redundancy required by today's building codes and standards. A 2007 reanalysis of potential earthquakes at Los Alamos indicated a greater than fourfold increase in the predicted earthquake ground motion. PF-4 contains significant amounts of plutonium, much of it in dispersible forms such as powders and liquids stored in containers not certified to survive facility collapse. The facility's safety documentation, approved by NNSA in December 2008, indicated that the radiation dose consequence to the public following an earthquake and resulting fire could exceed DOE's allowed levels by several orders of magnitude.

On October 26, 2009, the Board issued Recommendation 2009-2, *Los Alamos National Laboratory Plutonium Facility Seismic Safety*, to focus the attention of DOE and NNSA leadership on the need to address the danger posed by an earthquake and subsequent fire at PF-4. In response, the laboratory undertook a series of actions to improve the safety posture of this facility. These actions included efforts to strengthen the structure of the building and to reduce the likelihood and severity of a post-seismic fire.

In 2011, the laboratory contractor discovered that the increase in the seismic ground motion postulated in the updated probabilistic seismic hazard analysis for the site could lead to collapse of PF-4, amplifying the Board's concerns regarding a seismic event at PF-4. NNSA's initial modeling of this accident identified structural vulnerabilities that

could fail and result in loss of confinement capability or collapse. Subsequently, the laboratory contractor initiated upgrades to address the vulnerabilities. NNSA also sponsored a more detailed seismic analysis to further refine PF-4's response to a major earthquake. The analysis, completed in September 2012, identified two additional weaknesses that could result in collapse. The laboratory has begun physical modifications to the facility to address these weaknesses, with an initial completion target date of March 2016.

The Board expressed concern to the Deputy Secretary of Energy in a letter dated July 18, 2012, that this latest analysis was proceeding without adequate definition and technical justification. Subsequently, the Deputy Secretary of Energy directed NNSA to evaluate PF-4 using a second modeling approach. This alternate analysis is currently being performed by an independent engineering firm. Results are expected in the spring of 2014.

On January 3, 2013, the Board issued a letter to the Secretary of Energy urging implementation of additional near-term measures to protect the public while analyses are under way. In a letter to the Board dated March 27, 2013, the Secretary identified near-term actions being taken. The Secretary asserted that, notwithstanding its known vulnerabilities, PF 4 is safe because it meets DOE's standard for providing confinement of radioactive materials. The Board responded by letter on July 17, 2013, challenging the validity of the methodology supporting the Secretary's conclusions. At this time, the Board is awaiting the results of the alternative analysis.

Criticality Safety at the Los Alamos Plutonium Facility

Since 2005, NNSA has recognized that the Los Alamos National Laboratory's criticality safety program does not fully comply with applicable requirements. Recently, a severe staffing shortage occurred in the laboratory's criticality safety group and has inhibited progress in correcting the deficiencies in this program. In May 2013, the Board's staff conducted a review of the criticality safety program at PF-4. The staff review team identified several new criticality safety concerns, including widespread weaknesses in conduct of operations. Specifically, the Board staff's concerns included the following: (a) many procedures did not include criticality safety controls, (b) operators typically did not utilize written procedures when performing fissile material operations, (c) packages containing fissile material were not labeled with parameters relevant to criticality safety, and (d) some credible abnormal conditions were not properly analyzed in criticality safety evaluations.

Subsequent to this review, the laboratory performed an extent-of-condition assessment that found additional deficiencies in criticality safety and conduct of operations, including several instances where operating procedures could not be executed as written. On June 27, 2013, the laboratory director paused all programmatic activities in PF-4. The pause remains in effect as of the date of this testimony. On July 15, 2013, the Board issued a letter and report to the Secretary of Energy to assist NNSA in improving criticality safety and conduct of operations at Los Alamos.

On December 6, 2013, NNSA provided to the Board a report from the laboratory contractor that described the root causes of recent criticality safety infractions and

detailed actions to be taken prior to resuming operations. Identified causes included (a) deficiencies in management commitment to criticality safety, self-discovery, communication to the worker, and continuous improvement; (b) unclear roles, responsibilities, authorities, and accountabilities; (c) insufficient improvement in conduct of operations; (d) ineffective performance assurance processes; and (e) loss of criticality safety personnel and corporate knowledge. Actions to be taken include (a) ensuring that operating procedures can be performed as written, (b) incorporating criticality safety controls into operating procedures, (c) designating important operating procedures as "Use Every Time" procedures, (d) reducing the plutonium mass limits to the minimum needed for specific operations, and (e) delivering refresher training on criticality safety and conduct of operations to all fissile material handlers.

The laboratory contractor plans to resume programmatic operations in PF-4 methodically, beginning with operations involving the lowest criticality safety risk. NNSA assigned a senior criticality safety expert as a technical advisor to the laboratory director during resumption activities. Meanwhile, NNSA is pursuing a causal analysis to evaluate why the contractor's problems at Los Alamos persisted for so long without federal action. NNSA believes this analysis can be used to strengthen federal oversight and ensure sustained resolution of criticality safety issues.

Early Integration of Safety in Design

During 2013, DOE made progress in resolving certain safety issues affecting complex design and construction projects. On other issues, however, DOE encountered problems with closure and integration of safety into the design process. For example, in

a July 31, 2102, letter to DOE, the Board identified that the unmitigated spray leak accident analysis for the K-Basin Closure Sludge Treatment Project (STP) lacked conservatism and improperly relied upon active engineered controls and operator actions. As a result, the project's safety control set may not have been adequate. DOE agreed to address this issue, and in 2013 the STP project team revised the spray leak accident analysis to produce bounding consequences and eliminate reliance on active engineered controls and operator actions in the unmitigated analysis.

DOE continued to struggle with open safety issues at the Waste Treatment and Immobilization Plant at the Hanford Site. Beginning in 2012, DOE slowed the construction of two of the plant's key facilities—Pretreatment and High-Level Waste—to resolve technical issues, reevaluate the project's design, and identify a credited set of safety controls required to license the facilities. Many of these issues have been outstanding for years.

The Board supports DOE's efforts to integrate safety concepts at an early stage in design and construction projects. To this end, the Board uses "project letters" to provide timely notification of safety issues to DOE. Project letters are often issued prior to major project milestones (known as "Critical Decisions") to ensure that DOE is aware of unresolved safety issues and to assist DOE in evaluating the readiness of a project to move forward. During 2013, the Board completed a review of the conceptual design and safety documentation for the Transuranic Waste Processing Center Sludge Processing Facility Buildouts Project at Oak Ridge National Laboratory. In anticipation of DOE's

approval of Critical Decision-1, the Board sent DOE a project letter on November 8, 2013, identifying safety risks that the project will need to address in the future.

Revision of DOE Standard 3009, Preparation Guide for U.S. Department of Energy Nonreactor Nuclear Facility Documented Safety Analyses

One of the major actions in DOE's implementation plan for the Board's Recommendation 2010-1, *Safety Analysis Requirements for Defining Adequate Protection for the Public and the Workers*, is to revise and improve DOE Standard 3009 so that it clearly identifies safety requirements. The revision is significantly behind the original implementation plan schedule, and the latest draft fails to meet a number of commitments made by the Secretary of Energy when he partially accepted the Recommendation. On July 24, 2013, the Board issued a letter to the Secretary of Energy requesting an updated schedule and a report on how DOE would meet the commitments of its implementation plan. Based on DOE's response dated September 20, 2013, the Board expects to receive a final version of the revised standard for review sometime this year. Completing a revised standard with a clear and comprehensive set of safety requirements and implementing it across the defense nuclear facilities complex should improve the overall safety posture significantly.

ISM at the Activity Level

From 2008 to 2012, the Board's staff conducted reviews at all of DOE's defense nuclear facility sites to evaluate the implementation of ISM at the activity/worker level. Effective planning of work at the activity level is based on the development of effective

procedures to perform work safely and the ability of workers to follow those procedures as written. This planning involves implementing the five core functions of ISM: (1) defining the scope of work, (2) analyzing the hazards, (3) developing and implementing hazard controls, (4) performing work within those controls, and (5) providing feedback and continuous improvement.

As the final product of these reviews, the Board transmitted DNFSB/TECH-37, *Integrated Safety Management at the Activity Level: Work Planning and Control*, to DOE in August 2012. DNFSB/TECH-37 concluded that DOE had not achieved sustained improvement in implementing ISM at the activity level. In the Board letter accompanying the report, the Board stated that it believes "this is in large part due to a lack of formalized requirements and guidance within DOE's directives system and the resulting lack of DOE and contractor oversight in this area."

DOE provided its written response to the Board's letter and technical report in December 2012 and briefed the Board in January 2013 on an action plan for improvements. DOE's action plan included (a) development of a new DOE directive providing comprehensive guidance for contractors, (b) revision of DOE's directive on oversight to explicitly address this area, (c) evaluation of operating experience, (d) holding of a complex-wide workshop, and (e) emphasis by DOE senior management on increasing the rigor of oversight. The Board's staff closely followed these efforts, providing comments to assist and enhance the resulting products. By December 2013, DOE was completing final review of the new and revised directives and had completed the other planned actions. At year's end, DOE submitted a report to the Board on the

effectiveness of the actions taken in response to DNFSB/TECH-37. This report is under review.

Longevity of High-Level Waste Storage Systems

Stabilization and final disposition of the remnants of nuclear weapons production are essential tasks to protect the public. DOE stores more than 50 million gallons of high-level radioactive waste in 177 underground tanks at the Hanford Site. Many of the old single-shell tanks have been known to leak. As a result, DOE transferred most of the liquid waste in those tanks to newer double-shell tanks. The Board has been following DOE's plans for leaking tanks and the impact these tanks have on DOE's overall waste retrieval, treatment, and disposition strategy. In August 2012, DOE discovered that waste in double-shell tank AY-102 was leaking into the tank's secondary containment. This situation reinforces the need to retrieve and treat the tank waste and for vigilance in maintenance and safe operations in the Hanford Tank Farms for the foreseeable future, including maintaining ventilation as a safety-significant system to prevent flammable gas from accumulating in the tanks. The Board believes that prolonged storage of waste in the Hanford Tank Farms represents a potential threat to public health and safety.

At the Savannah River Site, DOE stores about 37 million gallons of high-level waste in tanks. DOE is processing and stabilizing this waste, but will need to continue safely storing it for years to come because of the sheer volume. During 2013, the Board's staff reviewed how DOE is managing and maintaining ventilation systems in the Tank Farms. As at Hanford, ventilation is a key safety system that prevents flammable gas from accumulating in the tanks and also provides containment and filtration of airborne

radioactive contamination. In the recent past, however, cracked ductwork, failed reheaters, and a release of contamination through the stack have indicated that this system is not entirely reliable. DOE and its contractor are facing challenges in maintaining these aging systems.

Emergency Preparedness, Response, and Recovery

The WIPP fire and release of radioactive material demonstrate why the Board continues to stress the importance of emergency preparedness and response. Especially critical is the capability of defense nuclear facilities to prepare for and respond to severe events and "beyond design basis" events such as the earthquake and tsunami that caused great damage to the Fukushima Daiichi Nuclear Power Plant. The Board has made a practice of including emergency preparedness and response as a panel session topic at its public hearings on the safety of operations at defense nuclear facilities.

The Board addressed emergency preparedness at the Pantex Plant and the Y-12 National Security Complex in public hearings in Amarillo, Texas, on March 14, 2013, and Knoxville, Tennessee, on December 10, 2013. At the hearing on Pantex, as part of their response to Board questions, contractor personnel committed to conducting an exercise that would assess the termination and recovery phases of emergency response. NNSA and contractor personnel also acknowledged that the strategy used to evaluate past exercises was flawed and committed to upgrade the strategy and re-evaluate past exercises. At the hearing on Y-12, the Board focused on analysis of the consequences of events that affect multiple facilities, actions developed to address these events, and how emergency response personnel have been prepared to take the necessary actions and

prioritize resources when cascading events overwhelm emergency response resources. The Board also focused on the condition of emergency response facilities and their survivability and habitability after a severe event and coordination of emergency response by multiple stakeholders.

Throughout the year, the Board's Site Representatives and other members of the Board's staff conducted reviews to improve emergency preparedness and response capabilities at DOE sites. These reviews included observations of exercises and drills at various DOE sites, as well as programmatic reviews of emergency preparedness and response programs and associated facilities and equipment. The Board's staff also provided input directly to DOE's staff assigned to regulate emergency preparedness and response at DOE sites. This input included feedback on proposed DOE guidance on severe events and observation of independent assessments conducted by DOE's Office of Health, Safety and Security at Lawrence Livermore National Laboratory, the Hanford Site, and the Nevada National Security Site. The Board is evaluating the information gathered at hearings and staff reviews to determine if further communications to DOE are needed.

Changes to the Board's Management and Communication

In the past fifteen months the Board has developed and instituted new procedures for how the Board Members operate as a Board, and how we interact with each other and with our staff. The Board Members adopted these procedures unanimously. I feel confident that each Board Member believes he or she has the ability to bring forward a minority viewpoint for consideration by the full Board. We don't always agree on every

issue – in fact, we have some strong personalities with strong viewpoints – but we have a process for vetting these concerns. We are keenly aware that our small agency with a thirty million dollar budget has a significant direct impact on multibillion dollar DOE and NNSA budgets, and an indirect impact on crucial national security issues.

We have also instituted a significant set of internal controls so we remain keenly aware of the Board's mission and our statutory responsibilities.

The best example I can give you of how these procedures and internal controls are working is the ongoing effort to improve criticality safety at Los Alamos National Laboratory that I spoke of earlier. When the Board staff's review uncovered significant problems in May 2013, the problems were briefed by the staff to senior Laboratory management and to the NNSA oversight staff. Subsequently, some individual Board Members shared their concerns with senior NNSA leadership. Ultimately, LANL management and NNSA acted before the Board ever communicated to the Secretary of Energy. As a result, corrective actions have been internally driven by LANL and NNSA rather than externally driven by the Board. The Board has continued to monitor these actions and has maintained a dialogue with NNSA that has been healthy for both sides. It is our expectation that the extended pause in plutonium operations will result in significant long-term improvement in safety. And by acting now, LANL and NNSA will ensure that their operations and training will support a significant ramp up in programmatic needs in the coming years.

Conclusion

The Board is confident that DOE has put in place a safety framework that facilitates the safe operation of its defense nuclear facilities. This safety framework is based on ISM, which is a process-based approach in which safety considerations are built into activities as they are planned and into facilities as they are designed. When properly implemented at all levels, ISM results in facility designs that efficiently address hazards, operating procedures that are safe and productive, and feedback that drives continuous improvement in both safety and efficiency.

The Board believes DOE has demonstrated a good safety record. However, the Board cannot ignore the current and emerging challenges that will define the future of DOE's defense nuclear facilities, the need for federal stewardship of this enterprise, and the federal commitment to protect the health and safety of the workers and the public. Today's challenges of aged infrastructure, design and construction of new and replacement facilities, and the undertaking of a wide variety of new activities in defense nuclear facilities coupled with ongoing mission support activities require continued vigilance in safety oversight to assure public and worker protection.

I anticipate that the issues I have described are familiar to DOE, NNSA, and the Board's congressional oversight committees. They have been previously identified by the Board in public documents, such as letters to DOE and NNSA, reports to Congress that summarize unresolved safety issues concerning design and construction of defense nuclear facilities, reports to Congress on aging facilities, and the Board's Annual Report to Congress. These reports and documents are available for review on the Board's public web site.

Dr. Peter S. Winokur, Ph.D.

Chairman of the Defense Nuclear Facilities Safety Board

Dr. Peter S. Winokur of Maryland has been appointed a Member of the Defense Nuclear Facilities Safety Board for a term expiring October 18, 2014. Dr. Winokur has more than 40 years of experience as a scientist and engineer in the field of radiation effects science, technology, and hardness assurance in support of military and space systems. A Fellow of the Institute of Electrical and Electronic Engineers and the American Physical Society, he was selected as one of the most highly cited researchers in Engineering by the Institute for Scientific Information, which lists the 250 most highly cited researchers in the world in given scientific fields.

Resume

2010 - Present	Chairman, Defense Nuclear Facilities Safety Board
2006 – 2010	Member, Defense Nuclear Facilities Safety Board
2005 – 2006	Senior Policy Analyst, Congressional Affairs, National Nuclear Security Administration. Liaison to Congress on a broad range of policy, legislative, and budget issues dealing with nuclear weapons, nuclear nonproliferation, energy, and research and development.
2001 – 2004	IEEE Congressional Fellow, Office of Senator Harry Reid. As Energy and Transportation Advisor, crafted energy policy that included tax legislation for renewable energy, resulting in billions in economic development and the creation of tens of thousands of jobs.
1989 – 2000	Manager, Radiation Technology and Assurance Department, Sandia National Laboratories. Led programs focused on radiation-effects science and technology, hardness assurance, and development of radiation-hardened microelectronics for military and space applications.
1987 – 1989	Supervisor, Radiation Technology and Materials Division, Sandia National Laboratories. Radiation physics, materials, and modeling in support of advanced technologies with severe reliability and radiation hardness requirements. Initiated SEMATECH programs dealing with equipment and processes for improved yield and reliability.
1983 – 1987	Member Technical Staff, Advanced Microelectronics Development Division,

	Sandia National Laboratories, Albuquerque, NM.
1979 – 1983	Senior Staff Physicist, Radiation Effects Branch Harry Diamond Laboratories, Adelphi, MD.
1969 – 1979	Physicist, Radiation Effects Branch Harry Diamond Laboratories, Washington, DC.
1968 – 1969	Scientist, Optical Character Reader Division Control Data Corporation, Rockville, MD.

Dr. Winokur has won numerous awards including the 2000 IEEE Millennium Medal, IEEE Nuclear & Plasma Sciences Merit and Shea Awards, R&D 100 Award, Industry Week's Top 25 Technologies of Year, Discover Award, Cooper Union's Gano Dunn Award, and prize-winning papers. He is the author of 140 publications in the open referred literature, including more than 30 invited papers, book chapters, and short courses.

Education

- Ph.D., University of Maryland, 1974: Physics
- M.S., University of Maryland, 1971: Physics
- B.S., The Cooper Union, 1968: Physics

Statement of Bruce Held
Acting Administrator
National Nuclear Security Administration
U.S. Department of Energy
on the
Fiscal Year 2015 President's Budget Request
Before the
Subcommittee on Strategic Forces
House Committee on Armed Services

April 8, 2014

Chairman Rogers, Ranking Member Cooper, and Members of the Subcommittee, I come before you today to present the President's FY 2015 Budget Request for the Department of Energy's (DOE) National Nuclear Security Administration (NNSA).

The FY 2015 budget request for the DOE is up 2.6% to $27.9 billion. The NNSA, which comprises over 40% of the DOE's budget, is up $451 million or 4%, to $11.7 billion. In today's fiscal climate, this increase is an indication of the President's unwavering commitment to nuclear security, as outlined nearly four years ago in Prague, and reaffirmed last June in Berlin. Support in this year's budget request is also due to an unprecedented level of transparency and discussion within the interagency on how the NNSA can best support implementation of the two key goals of the Nuclear Posture Review (NPR): to prevent nuclear proliferation and terrorism and to maintain a safe, secure and effective deterrent while we reduce the number of nuclear weapons in the stockpile. This budget request also supports the major initiatives of Naval Reactors, makes investments in physical and cyber security, and funds critical infrastructure recapitalization to support effective operations across the nuclear security enterprise.

Within that context, the Secretary and NNSA Leadership understand that we have an enduring responsibility to steward the taxpayers' dollar effectively and efficiently, and we simply must do better. Therefore, NNSA is looking at ways to improve our governance through a public interest model that will incentivize mission effective and cost efficient solutions to the highest risk nuclear security challenges facing our country. We look forward to seeing the interim recommendations of the Congressional Advisory Panel on the Governance of the NNSA, as well as to reviewing recommendations from other panels focused on governance, including the Secretary of Energy's Advisory Board and the independent commission to study the DOE Laboratories as directed in the FY 2014 Consolidated Appropriations Act.

Another primary area of focus to support effective and efficient implementation of our mission will continue to be project management and improving our cost assessment and estimation capabilities. The Secretary has reorganized the Department to elevate Management and Performance to one of three Under Secretary positions. Within this framework, the NNSA is committed to effectively managing its major projects and has been driving continued

enhancements to contract and project management practices through a reorganized Office of Acquisition and Project Management (APM). In 2013 GAO recognized progress at DOE in execution of nonmajor projects under $750 million, and narrowed the focus of its High Risk List for DOE to mega-scale, unique nuclear construction projects costing more than $750 million. APM is leading the NNSA's effort to deliver results by strengthening rigorous and well-justified alternative assessments and evaluations, providing clear lines of authority and accountability for federal and contractor personnel, and improving cost and schedule performance. NNSA is also applying lessons learned from the Office of Science project management methods and is collaborating across the DOE. At its core, DOE/NNSA's ultimate project management goal is to deliver every project on schedule, within budget, and fully capable of meeting mission performance, safeguards and security, quality assurance, sustainability, and environmental, safety, and health requirements.

The Department has just released its new Strategic Plan for 2014-2018, with the goal to "Secure our Nation" and the strategic objective to "enhance national security by maintaining and modernizing the nuclear stockpile and nuclear security infrastructure, reducing global nuclear threats, providing for nuclear propulsion, improving physical and cyber security, and strengthening key science, technology, and engineering capabilities." The Bipartisan Budget Agreement (BBA) sets firm caps on national security spending in FY 2015, and the President's Budget request adheres to them so tough choices had to be made across the NNSA. While Weapons Activities is up 6.9% from FY 2014 enacted levels, and the DNN account is down 20.4%, the Administration and DOE/NNSA remain firmly committed to our nonproliferation efforts and to implementing a robust program following the end of the four-year effort to secure nuclear material. In addition, modernization of the nuclear security enterprise and sustaining the science and technological base directly supports our nonproliferation and counterterrorism missions, so there is great synergy between the Weapons and Nonproliferation programs that we will continue to leverage. Details of the FY 2015 President's Budget Request for the NNSA follow.

Weapons Activities

The Weapons Activities account request for FY 2015 is $8.3 billion, an increase of $534 million or 6.9% over FY 2014 enacted levels. It is comprised not only of the Defense Programs portfolio, which is responsible for all aspects of stockpile management, but also our physical and cyber security activities, our emergency response and counterterrorism and counterproliferation capabilities, and enterprise-wide infrastructure sustainment. Each element is addressed in detail below.

Defense Programs

The Defense Programs portion of the Weapons Activities account is up $499.5 million, or 7.8% from FY14, to $6.9 billion. It funds the Nuclear Weapons Council (NWC) approved "3+2" strategy with some schedule adjustments, which aims to implement NPR guidance to reduce the number and types of weapons in the stockpile while maintaining a safe, secure and

effective deterrent. The request also continues to invest in the scientific and engineering foundation and in critical infrastructure. Building on last year's jointly conducted planning process for nuclear weapons modernization activities, DOE/NNSA and DoD agreed on a prioritized plan to meet requirements within current fiscal constraints of the Bipartisan Budget Act. Specifically, the FY 2015-19 Budget proposal requests funding for the following modernization activities:

- Complete production of the W76-1 warhead by FY 2019;
- Achieve the B61-12 life extension program (LEP) First Production Unit (FPU) by second quarter FY 2020;
- Achieve the W88 ALT 370 FPU by first quarter FY 2020;
- Defer the interoperable warhead (W78/88-1) LEP FPU by five years to FY 2030;
- Delay the Long-Range Standoff warhead FPU by one to three years to FY 2025-2027;
- Continue funding engineering design and to study alternative approaches to deliver the Uranium Processing Facility by 2025.

The Directed Stockpile Work request at $2.7 billion supports transitioning to a smaller, modernized nuclear stockpile while continuing sustainment efforts. The requested increase reflects the ramp up of Phase 6.3 activities for the B61 LEP and an increase for Stockpile Systems, including maintenance, surveillance, plutonium sustainment, and tritium program requirements.

In support of the Research, Development, Test, and Evaluation (RDT&E) program, the Campaigns request is $1.8 billion to provide increased technical resources needed for the certification of the existing stockpile and qualification of LEP options and components. For example, within the Inertial Confinement Fusion and High Yield Campaign, the National Ignition Facility (NIF) has achieved recent success with a stockpile stewardship experiment that exhibited significant "self heating," which is an important step essential to achieving ignition on the NIF. This platform will be used for years to come in studying a multitude of physical processes of relevance to nuclear weapons. Today, these physics environments are only accessible on laboratory-based high energy density facilities, such as the NIF, since the U.S. has been under a unilateral testing moratorium since 1992. The FY 2015 request for the NIF is $328.5 million.

Another area of significant investment by the DOE is in exascale computing. NNSA's Advanced Simulation and Computing Campaign (ASC) provide leading edge, high-end modeling, and simulation capabilities that capture and allow us to apply all that we know about weapons physics and engineering. The FY 2015 ASC budget request includes $50 million for the Advanced Technology Development and Mitigation sub-program, established in FY 2014, which funds projects that pursue long-term simulation and computing goals relevant to both exascale computing and the broad national security missions of the NNSA. Both the NNSA and DOE's Office of Science continue to collaborate in this area of advanced computing systems, with the Office of Science request providing $91 million towards the development of capable exascale systems.

Two decades after its beginning, the Stockpile Stewardship Program continues to deliver tangible results from the combined use of our leading edge computation and experimental tools. Specifically our level of understanding of how nuclear weapons work is far greater today than when we were testing. A core mission of the DOE remains to certify the safety, security and effectiveness of the nuclear deterrent; this is done each year by the Lab Directors and STRATCOM Commander, which continues to support our unilateral testing moratorium consistent with the Comprehensive Test Ban Treaty.

Infrastructure

The Readiness in Technical Base and Facilities (RTBF) request at $2.1 billion supports the underlying physical infrastructure and operational readiness for the nuclear security enterprise. The request includes funds to upgrade nuclear safety systems, improve the workplace environment for plant and laboratory employees, and reduce safety and mission risks across the enterprise in support of operational readiness. The Site Stewardship request of $82.4 million also ensures the overall health and viability of the enterprise.

Specifically, RTBF construction supports continued design activities for the Uranium Processing Facility Project (UPF) at $335.0 million, an increase of $26 million from FY 2014, while assessing whether there are alternative designs to accomplish the mission incrementally and at an affordable pace. NNSA remains concerned about the cost growth and sequestration impacts facing the UPF Project. In January 2014, NNSA chartered Oak Ridge National Laboratory Director Thom Mason to lead a team to develop and recommend an alternative approach to the UPF Project. NNSA is committed to our build to budget strategy to deliver the UPF Project by 2025, with Building 9212 capabilities, for not more than $4.2-6.5 billion.

The NNSA continues to pursue steps to maintain continuity of plutonium capabilities at Los Alamos National Laboratory (LANL)--to include analytical chemistry (AC) and materials characterization (MC) capabilities--with a commitment to cease programmatic operations in the 62-year old Chemistry and Metallurgy Research (CMR) facility by 2019. NNSA has developed a three-step Plutonium Infrastructure Strategy, to include: 1) Maximizing the use of the Radiological Laboratory Utility Office Building (RLUOB); 2) Reusing laboratory space in Plutonium Facility (PF)-4; and 3) Evaluating options for modular additions to PF-4. The first two steps allow the NNSA to move programmatic operations from the CMR facility; the third addresses the PF-4 lifetime while enabling production capability and analytical support enhancements to meet requirements. NNSA also continues to pursue investments in upgrading safety system in PF-4 as part of the overall approach to maintaining plutonium capability.

NNSA's request reflects the partnership between NNSA and DOD to modernize the nuclear deterrent, and as in last year's Budget, DoD is carrying a separate account for the outyears that contains funds for NNSA's Weapons Activities and Naval Reactors. These funds are transferred to NNSA during budget development and underscore the close link between these activities and DoD nuclear requirements and missions. We urge your subcommittee's support for

alignment of the appropriations process and allocations, including the 302(b) allocation, with the President's Budget. The requested allocation, within the spending caps set by the Bipartisan Budget Act, support these NNSA and DoD priorities. If not achieved, it could place modernization funding and implementation of our long-term stockpile sustainment strategy at risk.

Physical and Cyber Security

Improving the effectiveness and efficiency of Departmental operations is a top priority. Shortly after beginning his tenure, the Secretary of Energy directed the Department to undertake a thorough review of our security management. It became clear that DOE's approach to securing the Department's assets, including the special nuclear materials, could be strengthened by establishing greater accountability and clearer lines of authority.

Therefore, in February, the Secretary announced his new vision for enhancing the Department's health, safety, security and independent assessments. First, we have put in place a Chief Security Officer (CSO) under each of the three Under Secretaries, each empowered and held accountable for managing all security operations within their organizations. The CSOs will form the nucleus of a new DOE Security Committee, chaired by the Associate Deputy Secretary, which will develop unified security strategies across the DOE complex and raise the focus on protecting our people and DOE physical and information assets. Second, we are moving the Department's key support functions for security, health and safety under the leadership of the Under Secretary for Management and Performance in order to improve the effectiveness and efficiency of Departmental operations. Third, we are establishing a new Office of Independent Enterprise Assessments (IEA), reporting directly to the Office of the Secretary. This reorganization will set us on a stronger course to achieving our goals and mission more effectively, efficiently and safely.

In light of these reforms, the primary mission of NNSA's Office of Defense Nuclear Security and the Chief Security Office is to develop and implement sound security programs to protect Special Nuclear Material, people, information, and facilities throughout the nuclear security enterprise. The NNSA's Defense Nuclear Security request is $618 million to provide protection from a full spectrum of threats for NNSA personnel, facilities, nuclear weapons, and information.

The Information Technology and Cybersecurity (renamed from "NNSA CIO Activities") request is substantially increased to $179.6 million to provide protection against increasing cyber security threats. Information Technology and Cybersecurity supports the national nuclear security enterprise by providing information technology and cybersecurity solutions such as enterprise wireless capabilities and continuous monitoring technologies to help meet security and proliferation resistance objectives. The increase reflects expenses for items such as improvement to the cyber infrastructure at the NNSA sites, requirements for classified computing, and Identity Credential and Access Management.

Emergency Response and Counterterrorism

The Nuclear Counterterrorism Incident Response (NCTIR) request of $173.4 million applies technical assets from the nuclear security enterprise to resolve and manage nuclear and radiological incidents, especially those involving terrorism. It addresses this threat by maintaining and using response teams to manage the consequences domestically or internationally should an attack or incident result in radiation exposure to the public. NCTIR conducts training programs to train and equip response organizations and uses strategies that integrate NNSA expertise with law enforcement or military capabilities to locate, identify, and disable a terrorist nuclear device.

The Counterterrorism and Counterproliferation (CTCP) program request is $76.9 million to provide the foundation for the U.S. Government's capability to understand and counter nuclear terrorism and nuclear threat devices. The program also provides a technical understanding of foreign nuclear weapons outside of state control. Based on this expertise, the program informs national policies and international guidelines, as well as enabling domestic and international nuclear counterterrorism engagements.

Defense Nuclear Nonproliferation

The Defense Nuclear Nonproliferation (DNN) request is $1.6 billion, a decrease of $398.8 million, or about 20.4%, from the FY 2014 level. The programs under DNN have been accurately described as "defense by other means." The majority of the decrease is due to the decision to place the Mixed Oxide (MOX) Fuel Fabrication Facility construction project at the Savannah River Site in cold stand-by to allow further study of more efficient options for plutonium disposition. Other decreases reflect the conclusion of the President's four year effort to secure nuclear materials worldwide and bring the FY 2015 request in line with funding levels before the acceleration needed to implement the four-year effort.

We have met — and in some cases exceeded — the goals set in April 2009 following the President's Prague speech by:

- removing or confirming disposition of 5,113 kilograms of highly enriched uranium (HEU) and separated plutonium from 41 countries and Taiwan (enough material for more than 200 nuclear weapons and in excess of the target of 4,353 kilograms);
- completing material protection, control and accounting (MPC&A) upgrades at 32 buildings containing metric tons of weapons-usable material in Russia (for a cumulative total of 218 buildings secured in the former Soviet Union since 1994); and
- working with Russia and former FSU countries to establish effective and sustainable MPC&A capabilities at the national level.

Going forward in FY 2015, the Administration remains firmly committed to disposing of surplus weapon-grade plutonium. Over the past year, we have been working closely with the MOX project contractor and others to determine if there are opportunities to make the current MOX fuel approach for plutonium disposition more efficient. During the same time that we were

analyzing the current MOX fuel approach, we have been analyzing alternatives to accomplish the plutonium disposition mission, including reactor and non-reactor based approaches. DOE expects to complete the options analysis and an external independent review in the next 12-18 months. It is now clear that the MOX approach will be significantly more expensive than anticipated—at a $30 billion lifecycle cost estimate—even with potential contract restructuring and other improvements that have been made to the MOX project. As a result, the MOX project will be placed in cold stand-by, meaning we will cease all construction activities in order to minimize costs. The Fissile Materials Disposition request is $311 million, including $221 million to put the MOX project in cold stand-by, while assessing more cost effective options. NNSA must immediately take prudent actions to commence lay-up to preserve our investment while minimizing costs. The remaining funding will continue to support activities for disposition of plutonium and highly enriched uranium.

While much was accomplished under the four-year effort, serious threats still remain. Significant stockpiles of HEU still exist in too many places, and global inventories of plutonium are steadily rising. DNN programs, working closely with a wide range of international partners, key U.S. federal agencies, U.S. national laboratories, and the private sector will continue to remove and/or dispose of the dangerous nuclear materials that are still very much a part of our world today. The FY 2015 budget request for other DNN programs provides funding to continue remaining high-priority nuclear and radiological threat reduction efforts, following completion of the accelerated four-year effort activities. This includes $333 million for the Global Threat Reduction Initiative (GTRI) and $305 million for the International Material Protection and Control (IMPC) program. FY 2015 priority efforts include the removal of an additional 125 kilograms of HEU and plutonium from high priority countries; the protection of an additional 105 buildings with high-activity radioactive sources; the consolidation of all category I/II material into a new high security zone at a nuclear material site in Russia; preventing illicit trafficking by closing key gaps in the radiation detection architecture through the provision of fixed and mobile detection equipment; and the initiation of new nuclear security activities in the Middle East.

Another core program is DNN Research & Development (R&D) program, at $361 million in the FY 2015 budget request. DNN R&D develops new technologies and methods that advance national and international capabilities to detect and characterize foreign nuclear weapons production activities and detonation events and the movement of special nuclear material (SNM). DNN R&D is a national-level program providing applied research and development in nuclear security and treaty verification technology leveraged by interagency partners at the Departments of Homeland Security, Defense and State, and the throughout broader U.S. Government.

Finally, the Nonproliferation and International Security (NIS) program request is $141 million, which supports activities that prevent and counter WMD proliferation, including continued support of U.S. efforts to address proliferation by Iran, North Korea, and proliferation networks; implementation of statutory export control requirements; support for treaty verification and transparency; implementation of the Next Generation Safeguards Initiative to strengthen

International Atomic Energy Agency safeguards; and efforts to reduce proliferation risks associated with the expansion of nuclear power.

These activities are carried out in support of an interagency strategy for nuclear threat reduction and in close coordination with related programs in the Department of Defense, Department of State, and other agencies. Though difficult choices are inevitable in the current budget environment, NNSA continues to strongly support the nuclear nonproliferation mission. We are proud that the Office of Defense Nuclear Nonproliferation is responsible for delivering the majority of the pledges made by the United States under the Nuclear Security Summit process. The President and Energy Secretary recently represented the United States at the third such Summit in The Hague, where they highlighted additional commitments the United States intends to meet by the 2016 Summit, which will be hosted in the United States, and continued to encourage international commitment to and investment in meeting these critical nonproliferation challenges.

Naval Reactors

The budget request for Naval Reactors is $1.4 billion, an increase of $282.1 million, about 25.8% from the FY14 level. The request includes the base funding required to safely maintain, operate and oversee the Navy's 83 nuclear-powered warships. The Naval Reactors budget request includes three high priority programs: OHIO-class Replacement submarine; refueling of the Land-Based Prototype reactor plant; and the Spent Fuel Handling Recapitalization Project. These new projects are essential to maintaining a credible sea-based strategic deterrent, to maintain the research and training capabilities of the Land-based Prototype, and to maintain the capability to safely inspect, store and package naval spent nuclear fuel.

NNSA Program Direction—Federal Salaries and Expenses

NNSA Federal Salaries and Expenses (FSE), formerly "Office of the Administrator," request is $411 million, an increase of $34 million or 9% from the FY 2014 level. The increase reflects two requirements: a $20 million one-time cost to fund the move of the NNSA Albuquerque Complex to a different leased facility, and a $12 million increase associated with the transfer of Corporate Project Management from the Weapons Activities account, consistent with Congressional direction in the FY 2014 Consolidated Appropriations Act. The FY 2015 Budget Request provides support for 1,710 Federal FTEs – a 9.3 percent reduction relative to FY 2012 enacted levels – in response to today' constrained budget environment. FSE remains critical to supporting the NNSA mission and workforce.

Separately in the FY 2015 budget request, the Administration has proposed an additional $56 billion in funding across the Government through the Opportunity, Growth and Security Initiative (OGSI). The OGSI supports the President's broad vision for investing in growth, opportunity, and national security and advancing important Presidential goals while respecting the budgetary consensus developed under the Bipartisan Budget Agreement of December

2013. The OGSI allocates around $600 million to further support NNSA's critical mission and infrastructure investments.

Conclusion

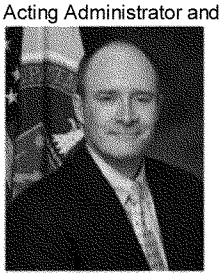
The NNSA implements a vital mission, responsible for nuclear security at home and abroad, and delivering the technology, capabilities and infrastructure essential to a 21st century organization. An emphasis on mission effective and cost efficient nuclear security solutions will be critical for the NNSA to succeed in today's fiscal climate where difficult choices must be made but where our workforce continues to rise to the challenge and deliver.

National Nuclear Security Administration

Published on *National Nuclear Security Administration* (http://nnsa.energy.gov)

Edward Bruce Held

Acting Administrator and Acting Undersecretary for Nuclear Security



Bruce Held is the Acting Undersecretary for Nuclear Security with responsibility for leading the National Nuclear Security Administration. He is responsible for operational and policy matters across the DOE/NNSA enterprise in support of President Obama's nuclear security agenda.

Mr. Held is a retired clandestine operations officer of the Central Intelligence Agency (CIA) where he received the Intelligence Commendation Medal for "tenacity and extraordinary accomplishments during a period of hostilities." During his career with the CIA, Mr. Held served as Chief of Station in Asia, Latin America, and Africa. He also served as Special Assistant to Mr. Anthony Lake, National Security Adviser to President Clinton, and as Special Assistant to Mr. George Tenet, Director of Central Intelligence.

After retirement from the CIA, Mr. Held served as Chief of Counterintelligence at Sandia National Laboratories, one of three DOE/NNSA-owned national security laboratories. His success in winning proactive support from the laboratory scientific community to aggressively counter the activities of foreign intelligence services was recognized by senior management of Sandia and DOE.

In December 2009, Energy Secretary Steven Chu asked Mr. Held to return to federal service and serve as Director of DOE's Office of Intelligence and Counterintelligence. In that capacity, he led all DOE intelligence and counterintelligence activities, including over thirty intelligence and counterintelligence offices nationwide, and served as a member of the Executive Committee of the U.S. Intelligence Community. In December 2012, Director of National Intelligence James Clapper awarded Mr. Held the National Intelligence Superior Service Medal for "transforming the Office of Intelligence and Counterintelligence, Department of Energy, to meet threats to the

national security of the United States."

In June 2013, Energy Secretary Ernest Moniz asked Mr. Held to assume the responsibilities of Associate Deputy Secretary and Acting Undersecretary.

Mr. Held holds an M.S. in Monetary Theory from the London School of Economics and a B.S. in Economics from the University of Minnesota. He is the author of two books on the impact of espionage in American history. He and his wife of 34 years, Lani, have a daughter and two sons.

DOCUMENTS SUBMITTED FOR THE RECORD

APRIL 8, 2014

Report on Plan to Implement the Nuclear Force Reductions, Limitations, and Verification and Transparency Measures Contained in the New START Treaty Specified in Section 1042 of the National Defense Authorization Act for Fiscal Year 2012 (U)

A. Introduction

B. Nuclear Force Structure under the New START Treaty (NST)

C. Plans for Maintaining the Flexibility of the Nuclear Force Structure within the Limits of the NST

D. Costs of Implementing the NST

E. Implementation Schedule and Key Decision Points

ANNEX

1. Planned Composition of Warheads on Deployed Intercontinental Ballistic Missiles (ICBMs), Submarine-Launched Ballistic Missiles (SLBMs), and Heavy Bombers

2. Number of Non-deployed and Retired Warheads

3. Changes Required to Implement the NST

4. Options for Accelerating Implementation

[This report is unclassified when removed from the classified Annex]

A. Introduction (U)

(U) This New START Treaty (NST) implementation plan is submitted in accordance with Section 1042 of the National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2012 (Public Law 112-81). The Secretary of Defense, in consultation with the Chairman of the Joint Chiefs of Staff, the Secretaries of the Air Force and Navy, and the Commander, U.S. Strategic Command (USSTRATCOM), is responsible for submitting this plan to Congress.

(U) This plan and the classified annex cover the details on how the Department of Defense (DoD) intends to implement the nuclear force reductions, limitations, and verification and transparency measures contained in the NST. It includes:

- (U) A description of the nuclear force structure of the United States under the NST, including:
  - (U) the composition of intercontinental ballistic missiles (ICBMs), submarine-launched ballistic missiles (SLBMs), and nuclear-capable heavy bombers; and
  - (U) the plans for maintaining the flexibility of the nuclear force structure within the limits of the NST.
- (U) The total costs associated with the reductions, limitations, and verification and transparency measures contained in the NST, and the funding profile by year.
- (U) An implementation schedule and associated key decision points.

(U) The report includes a classified annex providing further details on DoD implementation plans. The information provided in the annex covers:

- (U) The planned composition of the types and quantity of warheads for each delivery vehicle (i.e., ICBM, SLBM, nuclear-capable heavy bomber)
- (U) The number of non-deployed and retired warheads.
- (U) A description of the changes necessary to implement the reductions, limitations, and verification and transparency measures contained in the NST, including how each Military Department plans to implement such changes, and an identification of any programmatic, operational, or policy effects resulting from such changes.
- (U) A description of options for and feasibility of accelerating the implementation of the NST, including any potential cost savings, benefits, or risks resulting from such acceleration.

B. Nuclear Force Structure under the New START Treaty (U)

(U) As set forth in the 2010 Nuclear Posture Review (NPR) Report, the United States will maintain a Triad of ICBMs, SLBMs, and nuclear-capable heavy bombers within the NST central limits. Specifically, the United States plans to retain a mix of silo-based Minuteman III ICBMs in a single warhead configuration, Trident II SLBMs carried on OHIO-class strategic ballistic missile nuclear submarines (SSBNs), and B-2A and B-52H nuclear-capable heavy bombers.

(U) The NST establishes central limits on the number of nuclear weapons and nuclear delivery platforms.

- (U) 700, for deployed ICBMs, deployed SLBMs, and deployed nuclear-capable heavy bombers
- (U) 800, for deployed and non-deployed ICBM launchers, deployed and non-deployed SLBM launchers, and deployed and non-deployed nuclear-capable heavy bombers
- (U) 1,550, for warheads on deployed ICBMs, warheads on deployed SLBMs, and nuclear warheads counted for deployed nuclear-capable heavy bombers

Composition of Strategic Delivery Vehicles (U)

(U) DoD intends to implement the force structure detailed in Table 1, below. This force structure fully supports U.S. strategy and conforms to NST central limits, while allowing flexibility to make later adjustments, as appropriate.

(U) Table 1: Final NST Force Structure

(U) Strategic Delivery Vehicle (SDV) Type	(U) 2014 Deployed and Non-Deployed ICBM launchers, SLBM launchers, and Heavy Bombers	(U) 2018 Deployed and Non-Deployed ICBMs, SLBMs Heavy Bombers	(U) 2018 Deployed and Non-Deployed Launchers and Heavy Bombers
Minuteman III ICBMs	454[1]	400	454
Trident D5 SLBMs	336	240	280
B-2A/B-52H Bombers	96[2]	60	66
TOTAL	886	700	800

[1] 454 - includes four operational test launchers at Vandenberg Air Force Base, and does not include 53 non-operational ICBM launchers currently being eliminated.

[2] 96 - includes 20 B-2A (19 deployed and one non-deployed test) aircraft and 76 B-52H (74 deployed and two non-deployed test) aircraft. Does not include 13 non-operational B-52H bombers scheduled to be converted or eliminated.

C. Plans for Maintaining the Flexibility of the Nuclear Force Structure within the Limits of the NST (U)

(U) The NST provides flexibility to each Party to determine its nuclear force structure. Specifically, the NST provides that "each Party has the right to determine for itself the composition and structure of its strategic offensive arms within the Treaty's aggregate limits," and does not mandate any schedules for the implementation of the reductions beyond the requirement that the three NST central limits must be met within seven years after the NST's entry-into-force.

(U) The United States will pursue a future nuclear force structure under the NST that will:

- (U) comply with the provisions of the NST;
- (U) maintain the viability of each Triad leg—including the ability to hedge against the risk of a technical failure of any system or Triad element; and
- (U) satisfy the strategic targeting and planning requirements set forth in classified DoD guidance for the employment of nuclear forces, including the hedge requirement; and

(U) To achieve the final NST force structure, the United States is making many reductions toward the end of the seven-year NST implementation period. Throughout the duration of the NST, the United States will retain the right and ability to adjust the Treaty-compliant force mix as necessary.

(U) DoD will invest in its nuclear delivery systems to ensure that existing capabilities are adequately sustained with essential upgrades and modifications. DoD legacy systems are aging and the department is making the necessary sustainment and modernization investments to maintain a credible deterrent capability. Additionally, DoD will seek to modernize systems to ensure continuing deterrent capability in the face of evolving security challenges and technological developments.

D. Costs to Implement the New START Treaty (U)

(U) Table 3 below illustrates the costs to implement the NST from Fiscal Year 2014 to 2018 (FY14-18).

(U) Table 2: Costs to Implement the NST (U)

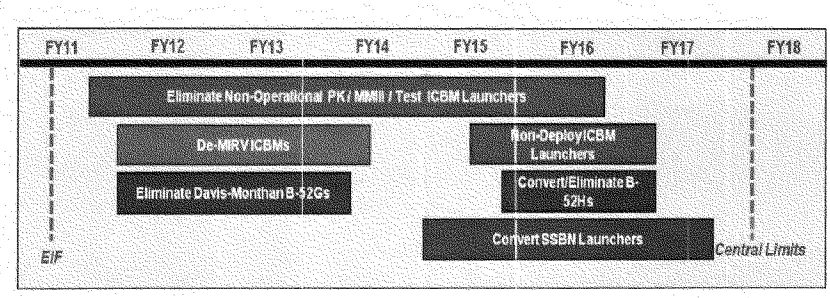
	FY2014	FY2015	FY2016	FY2017	FY2018	FY2014-2018 TOTAL
Air Force (USAF) - ICBM ($M)						
Eliminate Non-Operational ICBM Launchers	14.7	16.0	0.2	0.0	0	**30.9**
De-MIRV ICBMs	0.7	0.7	0.7	0.7	0	**2.8**
Non-deploy 50 Operational ICBM Launchers (Storage/Transportation)	4.3	6.2	4.0	3.1	1.7	**19.3**
ICBM - Total	**19.7**	**22.9**	**4.9**	**3.8**	**1.7**	**53.0**
USAF - Bomber ($M)						
Non-Operational Bomber Elimination	0.4	0.4	0.0	0.0	0.0	**0.8**
Bomber Conversion	0.5	0.2	0.1	0.2	0.0	**1.0**
Bomber - Total	**0.9**	**0.6**	**0.1**	**0.2**	**0.0**	**1.8**
USAF Exhibitions and Inspections	**5.7**	**6.0**	**6.1**	**6.2**	**6.4**	**30.4**
USAF - Total	**26.3**	**29.5**	**11.0**	**10.2**	**8.1**	**85.2**

	FY2014	FY2015	FY2016	FY2017	FY2018	FY2014-2018 TOTAL
USN - SSBN ($M)						
Transportation and Storage	14.1	32.0	17.4	14.0	7.3	**84.8**
Materiel and Ballast Support	25.9	17.7	15.0	4.3	1.5	**64.4**
Research and Engineering	0.3	0.3	0.3	0.3	0.3	**1.5**
D5 Support Equipment	9.6	9.0	9.8	7.8	3.5	**39.7**
Navy Exhibitions and Inspections	4.9	5.0	5.1	5.2	5.3	**25.5**
USN – Total	**54.8**	**64.0**	**47.6**	**31.6**	**17.9**	**215.9**

	FY2014	FY2015	FY2016	FY2017	FY2018	FY2014-2018 TOTAL
DoD – Total	**81.1**	**93.5**	**58.6**	**41.8**	**26.0**	**301.1**

E. New START Treaty Implementation Schedule and Key Decision Points (U)

(U) The Joint Staff, USSTRATCOM, the Air Force, and the Navy have collaborated to create an integrated implementation schedule that will enable all required reductions by February 5, 2018, as required by the NST. The schedule is summarized below.



COMMITTEE ON ARMED SERVICES

U.S. House of Representatives

Washington, DC 20515–6035

ONE HUNDRED THIRTEENTH CONGRESS

April 8, 2014

The Honorable Harry Reid
Majority Leader
U.S. Senate
522 Hart Senate Office Building
Washington, DC 20510

The Honorable Mitch McConnell
Minority Leader
U.S. Senate
317 Russell Senate Office Building
Washington, DC 20510

Dear Senator Reid and Senator McConnell:

As is apparent by the chronic program delays and cost increases as well as the many independent studies, reports, and expert testimony given on the subject, our Nation's nuclear security enterprise is broken. However much we may wish for the cultural problems and mismanagement at the National Nuclear Security Administration (NNSA) to go away, they are sure to continue without robust leadership at the top of the organization.

We urge you—in the strongest terms—to immediately confirm the nominee for Administrator of the NNSA, Lieutenant General Frank Klotz (USAF, ret.), so that he can provide the necessary leadership and stability that this organization desperately needs. Any further delay in his confirmation would have deeply negative and long-lasting impacts on national security and the future of the nuclear security enterprise.

Sincerely,

Mike Rogers
Chairman
Subcommittee on Strategic Forces

Jim Cooper
Ranking Member
Subcommittee on Strategic Forces

COMMITTEE ON ARMED SERVICES
U.S. House of Representatives
Washington, DC 20515–6035
ONE HUNDRED THIRTEENTH CONGRESS

March 19, 2014

The Honorable Ernest Moniz
Secretary of Energy
U.S. Department of Energy
1000 Independence Ave., SW
Washington, DC 20585

Dear Secretary Moniz:

We write out of profound concern that the National Nuclear Security Administration (NNSA) and the Department of Energy (DOE) have allowed yet another construction project needed to sustain a critical U.S. nuclear weapons capability to spiral out of control and become unaffordable. The result is more than $1.2 billion spent by taxpayers on the Uranium Capabilities Replacement Project (UCRP) at the Y-12 National Security Complex with very little to show for it. Indeed, NNSA has directed a review of alternatives approaches for the project, but the FY15 budget request includes $335 million in additional funding to proceed to 90% maturity on the current design.

This failure joins many others, including the half billion dollar increase revealed last year resulting from a failure of basic design and engineering processes for UCRP, as well as the FY13 decision to terminate the Chemistry and Metallurgy Research Replacement Nuclear Facility. We could add to this list the Mixed Oxide Fuel facility that is now estimated to cost in excess of $8 billion, notwithstanding a $4 billion original estimate or an expected annual operating cost of over $500 million.

It appears that DOE and NNSA are incapable of undertaking the large-scale recapitalization of Manhattan Project infrastructure deemed vital by the Bush Administration, the Congressional Commission on the Strategic Posture of the United States, and the Obama Administration in its 2010 Nuclear Posture Review. This failure is despite explicit promises made by President Obama during the ratification of the New START Treaty.

NNSA's Acting Administrator has convened a review of alternatives for UCRP due to report back on April 15—some six weeks after the budget request was submitted. We are therefore in the position of being asked to authorize funding for a project to proceed to 90% design completion knowing that an alternative will be proposed six weeks from today. This is an indefensible position for the Administration to place the Congress.

Additionally, it appears the "alternatives review" is itself ignoring the $4.2 billion cost cap imposed on this project by Congress in the National Defense Authorization Act for Fiscal Year 2013. While we applaud the Department for its commitment to finding an affordable alternative that will be operational by the critical 2025

date, it must not proceed down a road that is inconsistent with Congressional direction. We urge you to update the mandate for the alternatives review immediately.

Finally, we are concerned that the Department expects Congress to allow it to reset and restart this project with no significant accountability or change to how the Department undertakes major construction projects. There is a term, Mr. Secretary, for trying the same thing repeatedly and expecting a different result and there is no place for it when it comes to critical national security capabilities. As we prepare to markup the National Defense Authorization Act for Fiscal Year 2015, we ask you to inform us in writing and not later than 30 days from now, of the following:

1) How much appropriated funding remains for the UCRP, and what are the plans for it to be obligated prior to the presentation of an alternative to Congress for its consideration?

2) That the mandate of the "alternatives review" has been updated to reflect the statutory cost cap.

3) Who has been held accountable in DOE, NNSA, and the appropriate contractors for this major failure on a Presidential national security priority?

4) What structural reforms will be put in place to ensure that the cost-capped 2025 timeline is met?

We firmly share the Administration's position that the United States must have a viable and modernized uranium processing capability in place by 2025. However, we have little confidence in the DOE or NNSA to deliver that capability. Time and again, failures within DOE and NNSA of basic management and oversight have jeopardized the long-term viability of the nuclear deterrent. We stand willing to work with you to determine how this critical uranium capability can be provided for the nation. We would be happy to visit with you to discuss our concerns and your response.

Sincerely,

Howard P. "Buck" McKeon
Chairman
Armed Services Committee

Mike Rogers
Chairman
Subcommittee on Strategic Forces

HPM:tm

CC: The Honorable Chuck Hagel, Secretary of Defense
General Martin E. Dempsey, Chairman, Joint Chiefs of Staff
Admiral Cecil D. Haney, Commander, U.S. Strategic Command

Options	International Commitments	To Go Cost (in $)	Completion Timelines	Technical Viability	Other Factors
1) MOX Fuel Irradiation in Light Water Reactors	• Conforms to the U.S. approach and criteria in the PMDA • 3 barriers to retrieval (physical, chemical, radiological)	25.1 B	2043 with significant risks	• Low process risk due to proven operations of reference plants, but significant risk remains due to challenges associated with construction and start up of a highly complex nuclear facility	• NRC licensing process, several steps completed for MOX facility • Fuel qualification by the NRC • Willingness of utilities to use MOX fuel in their reactors
2) Plutonium Fuel Irradiation in Fast Reactors	• Would require reaching consensus in the PMDA's Joint Consultative Commission • 3 barriers to retrieval (physical, chemical, radiological)	50.5 B	2075 with significant risks (could be accelerated with 2-module ADR or FFTF variant)	• Issues with designing and building a fast reactor (as well as restarting FFTF if it were used) • Uncertainty with design and building a metal fuel facility in an existing, aging Category 1 facility	• Licensing of the ADR by the NRC • Fuel qualification by the NRC
3) Immobilization	• Would require supplemental U.S.-Russian agreement pursuant to Article III of the PMDA • 3 barriers to retrieval (physical, chemical, radiological)	28.7 B Total	2060 with significant risks	• Technological uncertainty with can-in-canister technology, throughput, and form for disposal in geologic repository • Specific modifications and impacts to WTP are yet to be fully defined – WTP is still under construction	• Not contemplated under current agreements with the State of Washington and WTP implications • Would require qualification/permitting of waste form • Strong opposition likely from the State of Washington
4) Down-blending & Disposal	• Would require supplemental U.S.-Russian agreement pursuant to Article III of the PMDA • 2 barriers to retrieval (physical, chemical)	8.8 B Total	2046 with least risk	• Under the reference case, low risk due to current operations • Additional gloveboxes are needed but technical requirements are known	• Would require amendments to the WIPP Land Withdrawal Act to expand capacity at WIPP and scope of mission at WIPP
5) Deep Borehole Disposal	• Would require supplemental U.S.-Russian agreement pursuant to Article III of the PMDA • 1-3 barriers to retrieval (physical, potentially chemical and radiological)	Cost range not estimated but likely closer to the WIPP option	Uncertain but assumed 2051 based on SNF repository	• Drilling boreholes technically viable • Technical requirements for certified waste form TBD • Further RD&D needed	• Regulatory challenges with establishing requirements for qualified waste form

WITNESS RESPONSES TO QUESTIONS ASKED DURING THE HEARING

APRIL 8, 2014

RESPONSES TO QUESTIONS SUBMITTED BY MR. ROGERS

Mr. HELD. NNSA assigned a new Federal Project Director to the project in May 2012. Shortly after he came on board, he identified the space-fit issue to the Departmental leadership and the Department immediately began recovery efforts. NNSA's commitment to not start construction until design is 90% complete allows the Department to reevaluate its options. NNSA engaged with B&W Y–12's corporate leadership and performed a root cause analysis for accountability purposes as well as to improve performance going forward. Several new personnel were brought in to improve the caliber of the project team, significant fee reductions were made, and an allowability review for direct costs has been initiated. Specifically, in FY 2012, NNSA reduced the fee associated with the design work by 90% ($5.1M), and in FY 2013, fees were reduced 60%. ($29M) in the areas of Project Management and Leadership primarily due to poor performance on UPF design, thereby sending a strong performance signal within the parameters of the contract fee structure. [See page 12.]

Mr. HELD. We have not lost $1.2B on design. To date we have expensed approximately $880M on the UPF project. Much work has occurred on the project beyond engineering design for the big box structure, such as NEPA, technology development, utilities and road relocation, and safety basis studies and analysis. The design efforts to date have focused principally on building 9212 process capabilities, development of process technologies, and the development of the safety analysis and authorization basis. These efforts are readily transportable to a smaller facility that contains the 9212 capabilities (ie: casting). [See page 12.]

Mr. HELD. The NNSA is always striving to find costs savings in support of mission activities, and we welcome all suggestions on how to save taxpayer funds. NNSA and its contracting partners, for example, are looking at ways to reduce deferred maintenance, control the growth of pension payments, and constrain medical expense growth. NNSA is also asking its Lab and Plant leadership teams to help identify savings initiatives. The new Pantex/Y–12 award may serve as a model to spur additional cost savings across NNSA.

The NNSA will continue to balance mission requirements with budget driven adjustments, and looks forward to close coordination with Congressional committees, the Department of Defense and other stakeholders to ensure that the budget reflects the most effective and efficient operation possible while supporting our mission deliverables. Going forward, any additional efficiency targets imposed in the absence of a specific plan for their accomplishment would constitute a scope cut and therefore adversely affect the nuclear weapons modernization program, as well as NNSA's broader Weapons Activities mission space to include the stockpile, science, infrastructure recapitalization, and counterterrorism. [See page 27.]

RESPONSE TO QUESTION SUBMITTED BY MR. COOPER

Mr. HELD. The complete removal of highly enriched uranium (HEU) from these 11 countries plus Taiwan represents 322 kilograms or .06% of the total amount of HEU at civilian facilities. While the overall percentage is relatively small, the number of countries that have HEU inventories greater than one kilogram was reduced by 1/3 during the Four Year Effort. [See page 15.]

RESPONSE TO QUESTIONS SUBMITTED BY MR. GARAMENDI

Mr. HELD. After Russia conducted a reassessment of its plutonium disposition program to better align it with its national nuclear energy strategy, Russia proposed to the United States that Russia's disposition program center on the use of fast reactors: the BN–800 under construction and a smaller BN–600 which was already part of its disposition program. Russia also proposed a number of significant nonproliferation controls on the use of fast reactors. As a result, the Plutonium Management and Disposition Agreement (PMDA) was amended, and the agreement entered into force in July 2011. It allows Russia to dispose of its weapon-grade plutonium

by fabricating it into MOX fuel and irradiating it in fast reactors under certain nonproliferation constraints, particularly with respect to the breeding ratio and reprocessing of breeder blankets. Russia continues to make progress on the BN–800 fast reactor, which will be used to support Russian plutonium disposition. [See page 20.]

QUESTIONS SUBMITTED BY MEMBERS POST HEARING

APRIL 8, 2014

QUESTIONS SUBMITTED BY MR. ROGERS

Mr. ROGERS. In January, Secretary Hagel provided a report assessing the requirements for plutonium pit manufacturing. This report reaffirmed the requirement for a pit production capacity of 50–80 pits per year.

a. Do you consider achieving a pit production capacity of this level to be part of implementing President Obama's stated goal of a "responsive nuclear infrastructure?"

b. Should pit production capacity be tied solely to the needs of the life extension programs, or should the requirement for a responsive infrastructure also influence when we achieve a pit production capacity of 50–80 per year?

Mr. WEBER. A. A responsive nuclear infrastructure certainly includes a plutonium pit production capability. This year the Nuclear Weapons Council will review the capacity requirement and the schedule for achieving it.

B. Pit production is not tied solely to life-extension programs. Secretary Hagel's report provides four drivers for our pit production requirements: 1) policy objectives for the nuclear deterrent, especially the desire to reduce the weapons in the hedge by implementing a responsive infrastructure; 2) military requirements; 3) stockpile aging; and 4) infrastructure cost and capacity.

Mr. ROGERS. Did the Nuclear Posture Review Implementation Study examine in detail various options for the structure of U.S. nuclear forces, including a dyad and potential monad?

Last summer, the results of this study were released. Why did President Obama ultimately decide to reject eliminating a leg of triad?

Mr. WEBER. The Nuclear Posture Review Implementation study provided a detailed look at U.S. deterrence requirements, including alternative employment strategies and force structures. The Presidential guidance stated that the United States will maintain a nuclear triad, which is the best option to maintain strategic stability at reasonable cost, while hedging against potential technical problems or vulnerabilities.

Mr. ROGERS. Can you provide the exact amount for the record, and your best recollection right now, of the amount of DOD budget authority it has transferred to DOE–NNSA in FY15? How much did it provide in FY14 and in previous years?

Would you say the Department has gotten its money's worth—is DOD happy with NNSA's execution of key programs like LEPs and major infrastructure construction projects?

Mr. WEBER. Currently, DOD has transferred $1.535 billion in Fiscal Year (FY) 2015 budget authority to NNSA. The following table provides the FY 2011–2015 total transfers (topline and annual) in millions:

TY $M	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
President's Budget Request 2011 Topline Budget Authority Transfer	642	887	1,082	1,428	1,644
Uplift	0	290	439	843	1,535
Total	**642**	**1,177**	**1,521**	**2,271**	**3,179**

Through the Nuclear Weapons Council, DOD has worked with NNSA to prioritize programs within the available funding. DOD continues to work with the Department of Energy to improve the weapons procurement process and meet our requirements for life-extension programs.

Mr. ROGERS. The FY13 NDAA requires the Nuclear Weapons Council to certify the budget request for NNSA each year. As the Executive Director of the Council,

do the Council members believe this is a useful process and authority? How could it be strengthened?

Was the certification process helpful during budget request formulation? Do you have greater confidence that NNSA is applying resources to military priorities?

Mr. WEBER. The certification process has helped increase communication and transparency between DOD and the Department of Energy during budget formulation. It has facilitated the incorporation of DOD priorities.

Mr. ROGERS. The FY13 budget request terminated the Common Vertical Lift Support Platform (CVLSP) (i.e., helicopter). This helicopter was to replace Air Force UH–1Ns that average more than 40 years old and fill critical roles in security in the ICBM fields. What is the Air Force's plan to fill the gap in capability left by cancellation of this program?

Mr. WEBER. The Air Force plans to submit a formal report as directed by the 2014 NDAA on September 30, 2014 outlining the UH–1N Replacement Strategy. The strategy is currently under review, and will be determined by the AFROC this summer. The decision facing the Air Force is whether to continue flying the UH–1N via a Service Life Extension Program or to replace the UH–1N with another airframe.

Mr. ROGERS. Does the decision to defer the first interoperable warhead program by at least 5 years affect the number of W76–1 warheads to be produced? Do we now need more warheads for a hedge?

Mr. WEBER. DOD is not planning to increase the number of W76–1 warheads produced. The Nuclear Weapons Council will continuously evaluate the hedge requirements and make adjustments if necessary.

Mr. ROGERS. Do you think that NATO allies should be asked to share part of the costs of the B61 Life Extension Program (LEP) costs currently paid for by the NNSA and the Air Force?

Would having the NATO allies pay for part of the LEP be against the Nuclear Nonproliferation Treaty?

Do NATO allies intend to purchase dual-capable aircraft with their own funds?

Why are B61s necessary for extended deterrence in Europe?

Please describe why the B61 LEP is needed for our own strategic deterrent, in addition to our extended deterrent for NATO and allies in Asia.

Ms. BUNN. Several of our NATO Allies do make substantial monetary contributions in several ways to offset the costs of stationing nuclear weapons in Europe. However, there is no desire for NATO Allies to help fund the LEP both because the United States requires the B61–12 for its own nuclear deterrence requirements and because U.S.-only funding ensures that the United States retains total control of design and capability decisions for the weapon. This allows the United States to ensure that the weapon has the desired characteristics for the strategic bomber mission as well as the dual-capable aircraft mission.

The existing nuclear burden-sharing arrangements with NATO are consistent with Article 1 of the Nuclear Non-Proliferation Treaty (NPT). If Allies were to fund of a portion of the B61–12 LEP, by changing the status quo, it might create the perception that the actions of the United States and its NATO Allies are inconsistent with the NPT.

Several NATO Allies currently have, and operate, with their own funds, dual-capable aircraft at various levels of readiness that are capable of delivering nuclear weapons. These aircraft are assigned to the NATO nuclear deterrence mission on a voluntary basis. We expect that these contributions will continue in accordance with NATO's 2012 Deterrence and Defense Posture Review (DDPR), which concludes that the current mix of nuclear, conventional, and missile defense capabilities for deterrence and defense is appropriate for the Alliance. For some NATO Allies, this will eventually require the purchase of new aircraft, or refurbishment of existing aircraft, in order to continue to contribute to this important Alliance mission. Some of our NATO allies with dual-capable aircraft have already contributed to the research and development of the Joint Strike Fighter (JSF), as well expressing their intentions to purchase the JSF.

The B61–12 LEP is necessary to maintain a credible and effective gravity bomb capability for the bomber leg of the U.S. nuclear Triad, our dual-capable aircraft, and those of our Allies, allowing for the eventual retirement and ultimate dismantlement of every other gravity bomb currently contained in the U.S. stockpile, all of which are being maintained well beyond their intended service lives. Completing the B61–12 LEP will demonstrate that the United States intends to maintain the important nuclear deterrence commitments of this and previous Administrations to Allies and partners across the globe and will reassure those Allies and partners that they do not need to pursue their own, independent nuclear weapons.

Mr. ROGERS. In the past several years, NATO has made a series of decisions and declarations regarding its nuclear posture. Please describe these decisions and

NATO's nuclear policy going forward. What is NATO's policy regarding future changes to its nuclear posture?

Ms. BUNN. NATO's most recent and definitive declaration regarding its nuclear posture is contained in the Alliance's May 2012 Deterrence and Defence Posture Review (DDPR). The DDPR affirmed that nuclear weapons are a core component of NATO's overall deterrence and defense capabilities along with conventional and missile defense forces; that NATO is committed to maintaining an appropriate mix of these capabilities; and that, as long as nuclear weapons exist, NATO will remain a nuclear Alliance.

With respect to possible future changes to NATO's nuclear posture, the DDPR also states that "the existing mix of capabilities and plans for their development are sound," but that "NATO will continue to adjust its strategy, including with respect to the capabilities and other measures required for deterrence and defense, in line with trends in the security environment." In this respect, "NATO is prepared to consider further reducing its requirement for non-strategic nuclear weapons assigned to the Alliance in the context of reciprocal steps by Russia, taking into account the greater Russian stockpiles of non-strategic nuclear weapons stationed in the Euro-Atlantic area."

Mr. ROGERS. Please tell us the status of the interagency process that will make a determination on whether this cruise missile is a treaty violation? When will this determination be made?

Ms. BUNN. The Administration takes compliance with all arms control agreements extremely seriously.

The Administration will report the most current determinations on arms control compliance in the annual compliance report, prepared by the State Department, after receiving inputs from the Departments of Defense and Energy, as well as the Intelligence Community.

This year's report is in the final review phases and will be fully coordinated and submitted soon.

Mr. ROGERS. In January, Secretary Hagel provided a report assessing the requirements for plutonium pit manufacturing. This report reaffirmed the requirement for a pit production capacity of 50–80 pits per year.

Do you consider achieving a pit production capacity of this level to be part of implementing President Obama's stated goal of a "responsive nuclear infrastructure?"

Should pit production capacity be tied solely to the needs of the life extension programs, or should the requirement for a responsive infrastructure also influence when we achieve a pit production capacity of 50–80 per year?

Ms. BUNN. The capability to produce 50–80 pits per year is a component of a responsive infrastructure that both meets the needs of our planned and prospective life-extension programs and allows the United States to shift away from retaining large numbers of non-deployed warheads as a hedge against technical or geopolitical surprise, allowing reductions in the nuclear stockpile. The pit production capacity of our nuclear infrastructure should take both of these factors into account.

Mr. ROGERS. Did the Nuclear Posture Review Implementation Study examine in detail various options for the structure of U.S. nuclear forces, including a dyad and potential monad?

Last summer, the results of this study were released. Why did President Obama ultimately decide to reject eliminating a leg of triad?

Ms. BUNN. The review was led by the DOD, and included senior-level participation by the Office of the Secretary of Defense, the Joint Chiefs of Staff, U.S. Strategic Command, the Department of State, the Department of Energy, the Office of the Director of National Intelligence, and the National Security Council staff. The review did examine different nuclear force postures; however, the President determined that retaining all three Triad legs will best maintain strategic stability at reasonable costs, while hedging against potential technical problems or vulnerabilities and changes to the geopolitical environment.

Mr. ROGERS. President Obama's Nuclear Employment Guidance rejects the notion of de-alerting U.S. nuclear forces while continuing to examine options to reduce the role of "Launch under Attack" in U.S. planning. Please explain why the President chose to reject de-alerting U.S. ICBM forces?

Ms. BUNN. The President determined that U.S. nuclear forces should be operated on a day-to-day basis in a manner that maintains strategic stability with Russia and China, deters potential regional adversaries, and assures U.S. allies and partners. He has also directed DOD to focus on increasing the decision time and information that would be available to the President in the event of a crisis where nuclear weapons use was being considered.

Mr. ROGERS. President Obama's Nuclear Employment Guidance rejects the notion of de-alerting U.S. nuclear forces while continuing to examine options to reduce the

role of "Launch under Attack" in U.S. planning. Please explain why the President chose to reject de-alerting U.S. ICBM forces?

Do you agree with the characterization that we hear that our nuclear forces, particularly our ICBMs, are on "hair-trigger alert"?

Ms. BUNN. After a comprehensive review, the President concluded that all three legs of the Triad should be operated on a day-to-day basis in a manner that maintains strategic stability with Russia and China, deters potential regional adversaries, and assures U.S. allies and partners. He has also directed DOD to institute measures that would increase the decision time and information available to the President in the event of a crisis where nuclear weapons use is considered or had occurred.

I do not agree with the characterization that our nuclear forces are on "hair trigger" alert. U.S. nuclear forces, even those at high states of readiness, are subject to multiple layers of control and strict safeguards. In addition, I fully support the President's decision to continue the practice of open-ocean targeting of our ballistic missiles so that in the highly unlikely event of any accidental or unauthorized launch of a U.S. ballistic missile, the weapon would land in the open ocean.

Mr. ROGERS. Do you believe our extended deterrent assurances to allies lose credibility if we continue to slip deadlines for modernizing our stockpile?

Ms. BUNN. I believe that the credibility of our extended deterrence assurances to our allies and partners is based on multiple factors. One of the most important factors is the consistent affirmation that the United States will retain a credible capability to forward-deploy nuclear weapons with heavy bombers and dual-capable fighter aircraft in support of U.S. allies and partners around the world. Over time, it is possible that the absence of the weapons modernization programs would have an impact on both deterrence and assurance. The B–61 Life Extension Program FPU schedule did slip as a result of sequestration and delays in receiving funding. Such events highlight the importance of resolving the fiscal issues that we face, and how crucial stable and consistent funding is to the ability of these programs to meet cost and schedule deadlines.

Mr. ROGERS. What is the minimum number of *Ohio*-class replacement submarines that are required to fulfill STRATCOM's requirements for sea-based deterrence? Please explain why less than 12 does not meet requirements?

Admiral BENEDICT. Navy conducted a thorough analysis and determined that a force of 12 OHIO Replacement SSBNs with 16 missile tubes, compared to the 14 OHIO Class, satisfies strategic deterrent requirements at the most affordable cost and meets STRATCOM operational requirements. The requirement to procure 12 OHIO Replacement SSBNs allows the Navy to provide 10 operational SSBNs during class mid-life overhaul period. During these overhauls, two SSBNs will be non-operational while they undergo required mid-life maintenance periods. This force will fulfill the combatant commander minimum essential requirement of 10 operational SSBNs. Reducing the fleet of SSBNs below 10 operational, now or in the future, will reduce survivability and will limit flexibility to respond to an uncertain strategic future

Mr. ROGERS. What will happen to the Navy and Air Force's costs for rocket motors if NASA chooses to pursue liquid-only technology for future spaceflight rockets? Are you comfortable that there is an interagency process between the services and NASA to understand the interdependencies between your programs for this?

Admiral BENEDICT. Navy's Trident II (D5) rocket motor costs are impacted and dependent on NASA's program decisions. NASA is expected to make a decision in the 2016 timeframe on the use of liquid or solid propulsion systems as part of the advanced booster for the next generation of space launch vehicles. If NASA decides to use liquid propulsion systems for the advanced booster, this will result in significant future unit cost increases and result in diminishing critical skills in the solid rocket motor industry. These increased cost and reduced critical skills in an already fragile industry will have an impact on the Navy's Trident II (D5) program. The Navy has worked closely with our industry partners to reduce overhead cost and streamline the infrastructure in-line with current production needs. The industrial base remains volatile and ongoing NASA solid rocket motor development programs are vital for sharing significant overhead costs for the Navy. Navy has been working closely with NASA and other Services to share and understand interdependencies between various programs. There is an effort to formalize this process by establishing a multi-agency team of experts. Solid rocket motors are vital for weapon systems and space applications and the industrial base remains an issue that must be addressed at the national level.

Mr. ROGERS. We have a classified document agreed to by the Navy and NNSA regarding the number of W76–1 warheads that will be provided to the Navy by certain dates. Has NNSA been meeting those milestones that were agreed to?

Have you had to adjust fleet operations at all due to NNSA's slowdown in delivering W76–1s? What is the likelihood you will have to do so in the future?

Admiral BENEDICT. NNSA did not meet their commitments for deliveries of W76–1s to the Navy in FY13. The NNSA proposed a revised delivery schedule for FY14 and FY15 to recover and meet its commitment to the Navy. Due to the deficiencies of deliveries to the Navy in FY13, Navy worked with STRATCOM to revise the deployment plan for our warhead modernization effort to ensure there are no operational impacts. We are closely monitoring this issue.

Mr. ROGERS. Please provide us the Navy's perspective on why we should consider including a refresh of the conventional high explosives as part of the W88 ALT 370 program.

Admiral BENEDICT. The Navy believes it is prudent to consider a W88/Mk5 conventional high explosive (CHE) replacement as a part of the W88/Mk5 Alteration 370 (Alt 370) Arming, Fuzing and Firing program. CHE replacement is a practical mitigation strategy to sustain the W88/Mk5 into the late 2030s. Executing the replacement in conjunction with the ongoing Alt 370 program is a cost effective option, which minimizes impact on the operational Fleet and the overall nuclear weapons complex. Many of the planned activities for the Alt 370, including flight and ground qualification testing, could be used to test and qualify the warhead after CHE replacement. The W88/Mk5 is a critical component of the sea based leg of the triad. The Navy is committed to work with the Nuclear Weapons Council to ensure it is fully informed of the options available to maintain an effective and credible sea-based strategic deterrent capability.

Mr. ROGERS. Do you believe the Nuclear Weapons Council and its subgroups, including the Standing Safety Committee that you both sit on, function effectively? Would you like to see any changes?

Admiral BENEDICT. I believe the Nuclear Weapons Council (NWC) continues to improve its oversight of the nuclear complex and has increased transparency and accountability. With regard to the subgroups such as the NWC Standing Safety Committee (NWC SSC), of which I am a member, our responsibility is to provide the information, options, and recommendations to the NWC in order to allow the NWC to make informed decisions regarding the nuclear enterprise. One key element of the NWC SSC that could be improved is the review of material to a deeper depth of understanding; this could happen through debate at the SSC. Another area that I would like see improve is better empowerment of the Action Officers (AO) on the NWC SSC. The AO core is the backbone of the NWC SSC. As members of the NWC SSC, we must better utilize the highly capable and professional AO structure to ensure they are always afforded the opportunity to conduct thorough and thoughtful analysis before issues are presented to the NWC SSC or NWC for decision.

Mr. ROGERS. Does the decision to defer the first interoperable warhead program by at least 5 years affect the number of W76–1 warheads to be produced? Do we now need more warheads for a hedge?

Admiral BENEDICT. The decision to defer the first interoperable warhead program did not resulted in any changes to W76–1 quantities. I defer to the Office of the Secretary of Defense to provide a response to the hedge requirements. However, new hedge numbers, in light of the delay, would make sense.

Mr. ROGERS. President Obama's Nuclear Employment Guidance rejects the notion of de-alerting U.S. nuclear forces while continuing to examine options to reduce the role of "Launch under Attack" in U.S. planning. Please explain why the President chose to reject de-alerting U.S. ICBM forces?

Do you agree with the characterization that we hear that our nuclear forces, particularly our ICBMs, are on "hair-trigger alert?"

General HARENCAK. The assertion that U.S. Intercontinental Ballistic Missiles (ICBMs) are on "hair-trigger alert" is false.

The U.S. ICBM force is highly safe, secure, and effective, and is an integral part of a command and control system that maximizes Presidential decision time and flexibility during times of crisis. As the 2010 Nuclear Posture Review affirmed, the current day-to-day alert posture of ICBMs enhances strategic stability, provides significant advantages to the U.S. nuclear force posture through extremely secure command and control, and offers high readiness rates at relatively low operating costs.

As with other U.S. strategic weapon systems, the use of ICBMs is governed by strict, redundant nuclear safety and surety procedures, and their release is possible only by direct Presidential authorization. The Air Force believes that maximizing Presidential decision time is imperative and can further strengthen strategic stability, especially at lower force levels.

Mr. ROGERS. Why does the FY15 budget request propose to delay the Long Range Standoff (LRSO) weapon by 1–3 years? What is the Air Force's preference for how long that delay actually is?

General HARENCAK. The Fiscal Year 2015 President's budget request shifts funding for the LRSO program by three years due to warhead life extension schedule delays with the National Nuclear Security Administration (NNSA) and the continuing fiscal challenges of the Budget Control Act.

The Air Force anticipates partnering with NNSA beginning in 4QFY14 to begin the Concept Assessment Phase (6.1) of the LRSO warhead effort. At the same time, the Air Force continues risk reduction and early systems engineering work as it assesses options to affordably execute the LRSO program. The Air Force preference is to minimize the delay to the extent necessary to align with the NNSA warhead program and meet combatant commander initial operating capability requirements.

Mr. ROGERS. When does our current force of Minuteman III ICBMs start aging out? What life extension programs are currently underway for the ICBMs?

What assessments or surveillance are we doing related to aging in the ICBM force?

What are our plans or programs to extend the life of our Minuteman III ICBMs? When must the decision be made to proceed with life extension?

General HARENCAK. Several modernization efforts for the Minuteman III (MM III) program are underway, such as ICBM Fuze Modernization, Solid Rocket Motor (SRM) Modernization, and Guidance Modernization that will ensure aging subsystem replacement and viability of MM III operations through 2030, as well as supporting the transition to the MM III follow-on. Age out of MM III subsystems is projected to occur between 2020 and 2030.

Both acquisition and life extension efforts, to include ICBM Fuze Modernization, SRM Modernization and Guidance Modernization programs, will deliver replacement subsystems in FY22, FY23, and FY27 respectively. Additionally, the ongoing Ground Based Strategic Deterrent (GBSD) Analysis of Alternatives, expected to be completed this fall, will inform requirements, acquisition strategies and plans for on-going efforts of SRM and guidance modernization.

The Air Force regularly conducts Force Development Evaluation flight tests, numerous ground tests, and surveillance programs to determine the reliability of all MM III weapon system aspects. These efforts allow for the identification of operational deficiencies that must be addressed to sustain current and future operations.

Mr. ROGERS. What will happen to the Navy and Air Force's costs for rocket motors if NASA chooses to pursue liquid-only technology for future spaceflight rockets? Are you comfortable that there is an interagency process between the services and NASA to understand the interdependencies between your programs for this?

General HARENCAK. Absent significant changes to the SRM industrial base, there is no empirical data or forecasted impact to the Air Force's costs for rocket motors should NASA choose to pursue liquid-only technology for future spaceflight rockets. The Air Force's Solid Rocket Motor (SRM) Modernization program, funded in the FY15 President's Budget, is based on current industrial base capacity and is not reliant on NASA's participation.

The Air Force understands the importance of the current industrial base supporting SRM Modernization program efforts. We will continue to work with other services, industry partners, and NASA to explore commonalities, share technologies and production practices, and eliminate redundancies throughout the SRM industry.

Mr. ROGERS. Do you believe the Nuclear Weapons Council and its subgroups, including the Standing Safety Committee that you both sit on, function effectively? Would you like to see any changes?

General HARENCAK. Consistent with the Nuclear Weapons Council Chairman's annual report to Congress, the Council and its subgroup continue to meet its responsibility of ensuring the United States retains a safe, secure and effective nuclear deterrent. As the authority and responsible custodian for two legs of the Triad, the Air Force believes it should have a larger and more direct role in shaping the processes and decisions that affect the nuclear weapons enterprise.

Mr. ROGERS. Please update us on the investigation into the fire and radiation release at the Waste Isolation Pilot Plant in New Mexico.

a. What has been found?

b. How long do you expect the shutdown to last?

c. How is the shutdown at WIPP sending ripple effects across the DOE–EM complex?

Mr. HUIZENGA. a. Following the February 5th salt haul vehicle fire and the February 14th radiological release events, DOE commissioned two Accident Investigation Boards (AIB). The vehicle fire AIB final report and initial radiological release AIB report have been issued and the Department is currently developing formal Corrective Action Plans for both. After the final radiological release AIB report is prepared and issued, a separate Corrective Action Plan will be prepared.

DOE continues to investigate the cause of the February 14th radiation release. In the underground, the focus has been on taking photographs and videos of the waste stacks, taking samples and swipes, and retrieving filter paper from the continuous air monitor. During the month of June, underground entries have been suspended while High Efficiency Particulate Air filters in the ventilation system are replaced. After this filter evolution is complete, underground entries will start again for further investigation, surveying, maintenance, decontamination and other activities. The information obtained during the investigation is being analyzed by some leading experts in various fields of expertise. All of this is being studied to try to determine the cause of the release. Based on recent entries into the WIPP underground, the AIB is evaluating the contents of a set of waste drums that came from Los Alamos National Laboratory (LANL) that are located in Panel 7. The AIB is looking at the possibility that a chemical reaction may have occurred within a drum, causing a potential high-heat event and a subsequent release.

b. The length of the time required to recover from the incident cannot be fully known until the cause of the event is understood and recovery planning is completed.

c. We are carefully evaluating the impacts to other Department of Energy sites including impacts on commitments with regulators. Specific impacts being evaluated include the Department's ability to meet: the removal of all legacy transuranic (TRU) waste from the Idaho National Laboratory by December 31, 2018, and, certain milestones for the WIPP certification of contact-handled and remote-handled TRU located at the Oak Ridge Reservation beginning September 30, 2015.

Mr. ROGERS. Is EM on track to meet its regulatory and compliance agreements for FY14? What about for FY15 and beyond?

Mr. HUIZENGA. The Environmental Management (EM) program will make significant cleanup progress with the President's fiscal year (FY) 2015 budget request of $5.6 billion. Assuming Congress appropriates the President's request, key progress will include continued efforts on radioactive tank waste stabilization, treatment, and disposal; special nuclear material consolidation, stabilization, and disposition; transuranic and mixed/low-level waste disposition; and excess facilities deactivation and decommissioning.

While significant cleanup progress has been achieved and will continue to be made in fiscal years 2014 and 2015, several challenges have impacted our progress on certain important projects. These challenges include the Balanced Budget and Emergency Deficit Control Act, which enacted sequestration, reduced EM funding by $394 million in FY 2013, and the FY 2014 lapse in appropriations and partial-year Continuing Resolution delayed work. The culmination of these events is anticipated to delay some FY 2015 milestones that cannot be met even with additional funds.

To the extent milestones are anticipated to be delayed, DOE will follow the provisions of its cleanup agreements for working with regulators regarding milestone adjustments, as necessary.

Mr. ROGERS. In January, Secretary Hagel provided a report assessing the requirements for plutonium pit manufacturing. This report reaffirmed the requirement for a pit production capacity of 50–80 pits per year.

a. Do you consider achieving a pit production capacity of this level to be part of implementing President Obama's stated goal of a "responsive nuclear infrastructure?"

b. Should pit production capacity be tied solely to the needs of the life extension programs, or should the requirement for a responsive infrastructure also influence when we achieve a pit production capacity of 50–80 per year?

Mr. HELD. a. NNSA considers pit production capability and capacity, as well as other capabilities, as components of a responsive enterprise. Each year we assess the affordability of our program and make adjustments to balance across our mission space.

b. NNSA is committed to maintaining key plutonium production and associated support capabilities at the Los Alamos National Laboratory. Moreover, NNSA is committed to meeting the requirements that underpin implementation of a responsive infrastructure which includes plans to construct two modular structures that will achieve full operating capability not later than 2027.

NNSA's commitments are contingent upon the receipt of timely congressional appropriations and authorizations, including the release of previously requested reprogramming funds from the Chemistry and Metallurgy Research Replacement (CMRR) project in August 2013.

Mr. ROGERS. Why does the FY15 budget request propose to delay the Long Range Standoff (LRSO) weapon by 1–3 years? Would NNSA prefer a 1, 2, or 3 year delay to LRSO?

a. How would the various delays affect the nuclear security enterprise, particularly production workloads at the plants and design teams at the labs?

Mr. HELD. In July 2014, the NNSA and Air Force will begin an LRSO Phase 6.1 Concept Assessment. The Phase 6.1 work includes development of an integrated master schedule and aligning the first production unit of the warhead with missile development. The Nuclear Weapons Council (NWC) took a preliminary step in this program by identifying the W80 and W84 cruise missile warheads as the best candidates for a reuse-based life extension that will be performed by Lawrence Livermore National Laboratory (LLNL) and Sandia National Laboratories (SNL). The funding profile in the Future Years Nuclear Security Plan (FYNSP) supports a First Production Unit (FPU) date of FY 2027, reflecting a three-year delay, in keeping with the NWC's December 2013 meeting decision. This delay defers FYDP (and Future Years Defense Program) costs in order to present a fiscal profile for the Departments of Energy and Defense that is more affordable while simultaneously recognizing the priorities of both departments.

a. At this early stage of the project, the FPU date could be accelerated by as much as 2 years (from the current baseline of 2027 based on funding levels), to 2025, provided there is an increased funding profile to support the change. Production plant and design agency impacts of the various delay options have not been fully vetted but there appear to be benefits as well as disadvantages to the delay options. For example, the currently slated three-year delay in LRSO will cause a production gap when the B61–12 life extension program (LEP) and W88 Alt 370 complete production at the end of 2024. This production gap is projected to last until the start of LRSO production in 2027. However, design team workloads at SNL may actually be smoothed due to this delay as the B61–12 and W88 Alt 370 (SNL and Los Alamos National Laboratory supported) will be entering the production stage (Phase 6.5) at approximately the time LRSO (SNL and LLNL supported) is entering its early design stage (Phase 6.3) when demand for design work will begin to peak. Shifting FPU of LRSO back toward 2025 will reduce the production gap but may increase demand on SNL as multiple life extension programs incur overlapping design and engineering phases.

Mr. ROGERS. NNSA's Weapons Activities is requesting an increase of over half a billion dollars compared to the amount appropriated in FY14. At the same time, we're seeing NNSA defer or delay several key programs, including the LRSO warhead and the W78/88 LEP. Why are we being asked to pay so much more but get so much less than the program plan that was committed to in the FY14 budget request?

Mr. HELD. Each year we reassess requirements and costs based on new information, and re-align program and funding as necessary. The objective is to maintain balance of activities to accomplish both near and long term requirements. Plans for life extension programs, modernization of key capabilities, and delivery platforms are coordinated with DOD and decisions are made by the Nuclear Weapons Council.

The program submitted in the FY 2015 President's Budget Request reflects a balanced program that sustains and modernizes the current stockpile while maintaining the facilities and workforce necessary to conduct stewardship for the indefinite future. The program maintains stockpile warheads through the conduct of routine maintenance such as limited life component exchange. It surveils and assesses the state of the stockpile so its safety, security, and effectiveness can be assured, and undertakes work to prevent or correct any shortfalls. It supports infrastructure and personnel across the complex to ensure production and intellectual capabilities are available for stewardship. Finally, it provides for the safe, secure, and environmentally compliant operation of these capabilities in support of the stockpile.

Mr. ROGERS. We have heard that the challenges that still need to be overcome to achieve fusion ignition at the National Ignition Facility (NIF) at Lawrence Livermore National Lab are considerable. What is the path forward for NIF in FY14 and the out-years?

a. Why has NNSA rescinded its rule that all non-NNSA customers be charged "full freight" for use of the facility? Why have we gone so quickly away from the full cost recovery model before it was ever even implemented?

Mr. HELD. NNSA is continuing to follow the plan laid out in the November 2012 Report to Congress, Path Forward to Achieving Ignition in the Inertial Confinement Fusion Program. We are in the process of preparing a report on more specific milestones requested in the FY 2014 Senate Report on Energy and Water Development Appropriations. We expect to have it published by August 11, 2014.

In particular, NNSA has altered its efforts from pursuing the "point design" to taking a scientific approach to understanding the barriers to ignition. While we have a long way to go, NIF has made considerable progress in improving the thermonuclear yields. We are within a few percentage points of achieving what is known

as the "alpha-heating" milestone. The weapons programs at both LLNL and LANL believe that these yield levels are already sufficient to begin returning valuable data on thermonuclear burn to inform our weapons physics efforts under stockpile stewardship.

a. The response to the announcement that NNSA was implementing this policy made clear that it would result in no additional funds for NIF, but would lead to the cessation of research programs of interest to NNSA, DOE more broadly, and to the national security of the Nation.

We rescinded this rule when Dr. Moniz became Secretary of Energy because it is contrary to the long-standing DOE policy—a policy with a substantial statutory backing—not to charge user facility fees for scientific users of DOE's user facilities unless the research is for proprietary uses. It is DOE practice that when we fund the operations at a facility, it funds the operations of that facility for all non-proprietary users. A number of interagency reports document DOE and White House Office of Science and Technology Policy agreement that DOE would steward its high energy density facilities (NIF, Z and Omega) for broad national use. There are two classes of users outside of NNSA for NIF and Z; basic science users and DOD users. Basic science grants from the Office of Science or the NNSA under the Stockpile Stewardship Academic Alliances program are sized on the basis that principal investigators will not pay user facility fees. Likewise DOD users such as DTRA or MDA did not request and have not been appropriated funds to cover the costs of their use of NIF or Z.

Mr. ROGERS. Please provide us NNSA's perspective on the potential option of including a refresh of the conventional high explosives as part of the W88 ALT 370 program.

Mr. HELD. Any decision about high-explosives refresh will be driven and supported by a sound technical basis. Like all of our stockpile weapons, the W88 is evaluated in an annual cycle to assess and certify that it meets all requirements. As with all systems, there are concerns about continued aging of the systems and their components, and aging affects are considered as part of this annual surveillance. The high explosives are examined and monitored as part of this process. The Director of Los Alamos National Laboratory, the Design Agency for the W88/Mk5, has the responsibility to perform this annual evaluation for the CHE in the W88. He continues to assess that the W88 meets military requirements and remains safe, secure, and reliable. A new cycle of surveillance data will be collected this year, and will add to our overall understanding of how the explosives in the W88 are aging.

NNSA has studied implementing a CHE refresh of the W88 in conjunction with the ALT 370 program. The CHE refresh option could support NNSA's development of alternatives to extend the W88 weapon system lifetime, but refreshing the CHE does not explicitly extend the useful lifetime of the W88. CHE refresh does reset the beginning of life for several components in the nuclear explosive package, a potentially helpful result if planned life-extension activities (i.e., Interoperable Warhead (IW)–1 or IW–2) for the W88 system are further postponed.

NNSA completed a W88 CHE Refresh Cost and Feasibility Report, detailing an overall cost of $576 million (including management reserve) for implementation. Some combination of DOD and NNSA funding would be required to complete this activity, and NNSA's FY 2015 Budget Request does not include fiscal provisions for CHE refresh.

In the near future, the W88 ALT 370 progress will diverge from an alignment with CHE refresh activities. Because of stakeholder interest, NNSA has taken steps in FY 2014 to allow maximum synergy between the ALT 370 and the CHE refresh through FY 2015. These steps preserve our ability to maintain leveraging and trade space for future LEPs and reduce the overall estimated cost to the government for implementation of both programs.

Mr. ROGERS. Please provide us the number of personal service contractors employed by directly by NNSA. How has this number changed over the past 5 years?

Mr. HELD. The number of personal service contractors employed by NNSA is zero and that number has not changed over the last 5 years. To ensure proper use of support service contracts, NNSA reviewed existing contracts and verified that terms and conditions do not create personal services contracts. Additionally, to assure that administration of support service contracts is appropriate and does not inadvertently create a personal services situation, NNSA is training federal employees on proper interactions with contractor employees.

Mr. ROGERS. How is the shutdown at WIPP sending ripple effects across the NNSA complex?

Mr. HELD. It is difficult to determine specifics. Depending on the length of the WIPP shutdown, there could be programmatic impacts to Pu Sustainment but as

of now, LANL is investigating backup options to disposition waste that could mitigate some of the future impact.

The WIPP shutdown could also impact the Material Recycle and Recovery (MRR) program at LANL. Any resumption of MRR work done involving the Plutonium Facility 4 vault de-inventory requires temporary drum storage at LANL until a long term storage solution is made available.

Mr. ROGERS. By law, Congress is supposed to receive the annual Report on Stockpile Assessments, which includes the assessments of stockpile health conducted by the laboratory directors and by the commander of U.S. Strategic Command, by March 15. Like last year, we still have not yet received this important report that we use to inform our legislative and budgetary decisions each year. Why the delay? When will we receive it?

Mr. HELD. a. The coordination process took longer than expected in order to reach consensus on a few specific items.

b. The FY 2013 Report on Stockpile Assessments was signed by the President on May 8, 2014. It was delivered to Congress on May 9, 2014.

Mr. ROGERS. From a technical standpoint, do you believe the B61 LEP schedule can be slipped again without impacts to the safety, security, or reliability of the weapon? What is the assessment of the NNSA lab directors on this?

Mr. HELD. NNSA is seeing aging and degradation issues even today. The further we extend the schedule, the more risk we are forced to accept in the safety, security and reliability of the B61. As stated by Dr. Paul Hommert, President and Director of SNL, during his testimony to the HASC–SF in October of 2013 "In order to sustain high confidence in the safety, security, and reliability of the B61 into the next decade, it is our technical judgment that we must complete the life extension program currently being executed." In recent years, his letters have documented concerns related to technology obsolescence and aging. While the B61 is currently safe and secure, these concerns continue to increase. For example, in the past three years, SNL and LANL have observed time-dependent degradation not seen before in electronic, polymer, and high-explosive components. This observation is not surprising given the age of the B61 weapon system, the oldest units of which were manufactured and fielded in the late 1970s with some components dating back to the 1960s. As planned, the B61 LEP addresses all known aging-related issues and also addresses technology obsolescence to ensure the bombs continue to meet DOD requirements.

Mr. ROGERS. Has NNSA benefited from the greater transparency to and involvement with the Nuclear Weapons Council?

Mr. HELD. The Nuclear Weapons Council (NWC) and its subordinate Standing and Safety Committee provide for the Services, Combatant Commands, Department of Defense, and Department of Energy to cooperatively determine the actions necessary to provide a safe, secure, and effective nuclear weapon deterrent. Collectively, we are able to review options for extending the lives of our weapons, develop a path to a responsive infrastructure, and accomplish trade-offs between various programs to attain the stockpile necessary to keep the Nation safe. Involvement with the NWC ensures options and opinions are discussed, enabling DOD and DOE/NNSA to work with Congress and the Administration from a common understanding.

Mr. ROGERS. Does NNSA's W76–1 LEP funding in FY15 and out-years meet all Navy requirements for regarding scheduled deliveries?

a. Does the decision to defer the first interoperable warhead program by at least 5 years affect the number of W76–1 warheads to be produced? Do we now need more warheads for a hedge?

Mr. HELD. Yes. As submitted to Congress in the most recent Selected Acquisition Report, the W76–1 LEP funding profile for FY 2015 and subsequent years until close out of production in FY 2020 meets all Navy requirements for scheduled deliveries. Production numbers are written in the Selected Acquisition Report and delivery schedules are discussed at the Project Officers' Group. To prevent any confusion, NNSA is drafting a letter that will specify the agreed to deliveries. This letter should be sent out by the end of June/early July.

a. The IW–1 decision did not affect the number of W76–1 to be produced, and NNSA has no plans to alter W76–1 production quantities. Decisions about hedge quantities would need to be addressed by the NWC.

QUESTIONS SUBMITTED BY MR. COOPER

Mr. COOPER. The January 2014 Defense Science Board report "Assessment of Nuclear Monitoring and Verification Technologies" recommended much more focus on verification and detection to be able to meet medium and longer-term proliferation

threats such as proliferation of nuclear weapons materials. There has also been concern about Russia's compliance on a nuclear arms treaty. The report concluded that "technologies and processes designed for current treaty verification and inspections are inadequate for monitoring realities."

What actions are NNSA and DOD taking in response to the Defense Science Board's report? And do you believe the resources and plans are adequate to meet this rapidly changing threat and need?

What is the constraining factor? What more could we be doing if funds were available?

Ms. BUNN. DOD and NNSA are participating in an effort led by the National Security Council at the Under Secretary level to address the concerns and recommendations in the report. The interagency group will formally analyze each DSB recommendation and identify relevant existing and planned activities. It will then determine whether resources and plans are adequate. The results will be used to assist in planning future activities to close any gaps identified in the report.

Mr. COOPER. Last year, NNSA had a goal of $320 million in efficiencies but only achieved $80 million. This year, NNSA documents do not identify any new efficiencies. By comparison, DOD budget documents commit DOD to an additional $95 billion in efficiencies in the next 5 years, on top of efficiencies already being pursued such as 20% cut in civilian personnel in the Office of the Secretary of Defense. DOD reportedly also identified nearly a billion dollars in efficiencies for NNSA. What efficiencies will NNSA commit to, and is there a plan to achieve the $240 million that were promised last year and are there any new efficiencies being considered or pursued?

Ms. BUNN. As a member of the Nuclear Weapons Council Safety and Security Committee, I consistently work with my fellow committee members, including our NNSA/DOE colleagues who serve as co-chairs, to pursue increased efficiency and cost savings throughout the nuclear enterprise. DOD continues to offer the expertise of the Cost Assessment Program Evaluation office to NNSA as it pursues greater efficiencies in the future.

Mr. COOPER. The January 2014 Defense Science Board report "Assessment of Nuclear Monitoring and Verification Technologies" recommended much more focus on verification and detection to be able to meet medium and longer-term proliferation threats such as proliferation of nuclear weapons materials. There has also been concern about Russia's compliance on a nuclear arms treaty. The report concluded that "technologies and processes designed for current treaty verification and inspections are inadequate for monitoring realities."

What actions are NNSA and DOD taking in response to the Defense Science Board's report? And do you believe the resources and plans are adequate to meet this rapidly changing threat and need?

What is the constraining factor? What more could we be doing if funds were available?

Mr. HELD. NNSA agrees with the DSB Report conclusion, "the technologies and processes designed for current treaty verification and inspections are inadequate to future monitoring realities," and would expand this conclusion to include both cooperative and non-cooperative regimes. NNSA has invested heavily over the last 50 years to support current and future monitoring requirements, including using space-based detection means to support the Limited Test Ban Treaty, developing options for warhead verification in collaboration with Russia and international partners, and improving confidence in discriminating low-yield underground nuclear explosions from other seismic sources. But work remains and the scope is expanding, as the Report describes. For example, NNSA expects future monitoring requirements under a cooperative regime may include accounting for deployed and non-deployed warheads in addition to delivery platforms; and future proliferation detection requirements under non-cooperative scenarios will likely expand both in capabilities sought by existing nuclear states and in the number of actors trying to access these capabilities. Solutions will require a continuous process of tailored and persistent surveillance for both warhead authentication and monitoring throughout weapon lifecycles and for monitoring undesirable nuclear activity throughout the world. In anticipation of the DSB Report findings, NNSA has especially emphasized verification and monitoring support efforts during the past several fiscal years. For example, NNSA has developed a series of national test beds in nonproliferation and monitoring to be responsive to future needs and capabilities to be adaptive to activities of a creative adversary. These efforts have included the participation of the Department of State's Office of Arms Control and Verification (AVC), the Department of Defense's Defense Threat Reduction Agency (DOD/DTRA), and representatives of nearly all of the Intelligence Community. This approach is fully aligned with the DSB recommendations on integrated spiral development. NNSA welcomes the op-

portunity to provide more detail and offers a classified briefing that would meet the request on both constraining factors and funding.

Mr. COOPER. Last year, NNSA had a goal of $320 million in efficiencies but only achieved $80 million. This year, NNSA documents do not identify any new efficiencies. By comparison, DOD budget documents commit DOD to an additional $95 billion in efficiencies in the next 5 years, on top of efficiencies already being pursued such as 20% cut in civilian personnel in the Office of the Secretary of Defense. DOD reportedly also identified nearly a billion dollars in efficiencies for NNSA. What efficiencies will NNSA commit to, and is there a plan to achieve the $240 million that were promised last year and are there any new efficiencies being considered or pursued?

Mr. HELD. In June 2014, NNSA submitted a report to Congress entitled Report on National Nuclear Security Administration (NNSA) Efficiencies in FY 2014 which detailed how NNSA met its FY 2014 target of $80.0 million in "cost of doing business" efficiencies and noted how pursuing $240 million in "workforce prioritization" efficiency targets would harm NNSA's ability to certify the safety, security, and effectiveness of the nuclear stockpile. The Committee requested NNSA identify an additional $59.5 million in "cost of doing business" efficiencies to release the remaining portion of the $139.5 million as described in the FY 2014 NDAA. NNSA will soon submit an addendum to the June report showing such savings.

The NNSA is always striving to find costs savings in support of mission activities, and we welcome all suggestions on how to save taxpayer funds. The NNSA will continue to balance mission requirements with budget driven adjustments, and looks forward to close coordination with Congressional committees, the Department of Defense and other stakeholders to ensure that the budget reflects the most effective and efficient operation possible while supporting our mission deliverables.

QUESTIONS SUBMITTED BY MS. SANCHEZ

Ms. SANCHEZ. United States taxpayers are expected to cover much of the modernization of the B61s through a life extension program which is to cost around $2.1 billion.

Are there any plans for NATO countries to contribute to the cost of the B61 life extension program of the B61? How much is NATO paying in FY14 for its share in terms of contribution to NATO nuclear sharing?

Are there plans to re-evaluate the number of B6s that will undergo the life-extension program? And is nuclear sharing with NATO consistent with Article 1 of the Nuclear Non-Proliferation Treaty which says "nuclear states will not assist non-nuclear weapon states in acquiring nuclear weapons"?

Mr. WEBER. There are no plans for NATO countries to contribute to the cost of the B61–12 Life Extension Program (LEP). However, NATO basing nations provide substantial financial support to the nuclear mission by providing aircraft, aircrews, load crews, and security forces, and also by providing facilities and much of the supporting infrastructure and equipment necessary to support the U.S. munitions support squadrons. Several NATO allies have contributed funding to F–35 development and have expressed a strong interest in acquiring the F–35 as their dual capable delivery system. Without the financial contributions of those NATO allies, the F–35 unit cost to the U.S. would increase. NATO common funding has paid for over $300 million, approximately 75 percent of the B61 storage security infrastructure and upgrades. There are no plans to re-evaluate the number of B61s at this time.

The existing arrangements for the deployment of U.S.-owned and controlled nuclear weapons in support of NATO are consistent with Article 1 of the Nuclear Nonproliferation Treaty (NPT). Allied funding of a portion of the B61 LEP would almost certainly create perception problems regarding U.S. and Allied compliance with the Nuclear NPT, and any sharing of nuclear weapons design information with non-nuclear States associated with such funding would be problematic.

Ms. SANCHEZ. United States taxpayers are expected to cover much of the modernization of the B61s through a life extension program which is to cost around $2.1 billion.

Are there any plans for NATO countries to contribute to the cost of the B61 life extension program of the B61? How much is NATO paying in FY14 for its share in terms of contribution to NATO nuclear sharing?

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Ms. BUNN. There are no plans for NATO Allies to make direct contributions to the cost of the B61–12 Life Extension Program (LEP) because the United States requires the B61–12 for its own nuclear deterrence requirements; and because U.S.-only funding for the B61–12 LEP ensures that the United States retains total control of design and capability decisions. This allows the United States alone to ensure the weapon has the desired characteristics for the strategic bomber mission as well as the dual-capable aircraft mission.

NATO basing nations provide substantial financial support to the nuclear mission at NATO main operating bases. In addition to providing aircraft, aircrews, load crews, and security forces, they also provide facilities and much of the supporting infrastructure and equipment for the U.S. munitions support squadrons. Because these facilities serve both national and Alliance purposes, and are funded through individual Alliance country budgets, it is not possible to provide an accurate assessment of exactly how much NATO basing nations have contributed in Fiscal Year 2014 toward NATO nuclear burden-sharing, although it is substantial.

Funding of security enhancements and upgrades, as well as funding of infrastructure upgrades (investment) at the specific European weapon storage sites, is provided through the NATO Security Investment Program (NSIP). There have been four NATO weapons storage-related upgrades (Capability Package upgrades) since the original NATO Capability Package was approved in 2000. The total contributions are as follows:

Program Name	Total (M)	U.S. Contribution
Initial WS3 Installation	~$215M USD	$51.6M USD
Basic Capability Package (July 2000)	12.8M EUR	3.0M EUR
Addendum 1 (February 2005)	17.9M EUR	4.3M EUR
Addendum 2 (April 2006)	13.0M EUR	3.1M EUR
Addendum 3 (March 2009)	13.0M EUR	3.1M EUR
Addendum 4 (August 2011)	108M EUR	26.2M EUR

The U.S. costs above are estimates that are based on a 24 percent burden-share. The U.S. burden-share is generally 22–24 percent of the total NSIP costs.

The number of B61–12 weapons to be produced through the LEP was evaluated by DOD and approved by the Nuclear Weapons Council at the onset of the program. This requirement is continuously reviewed throughout the 6.X life cycle management process. The projected quantity of weapons to be refurbished is based upon the requirements for extended and strategic deterrence commitments as outlined in various plans and policy documents. Should the guidance and/or direction in these documents change, the quantity of B61–12 bombs to be produced would be adjusted accordingly. NATO's existing nuclear burden-sharing arrangements are consistent with Article 1 of the Nuclear Non-Proliferation Treaty (NPT). Allied funding of a portion of the B61–12 LEP, by changing the status quo, might create the perception that the actions of the United States and its NATO Allies are inconsistent with the NPT.

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Are there any plans for NATO countries to contribute to the cost of the B61 life extension program of the B61? How much is NATO paying in FY14 for its share in terms of contribution to NATO nuclear sharing?

Are there plans to re-evaluate the number of B6s that will undergo the life-extension program? And is nuclear sharing with NATO consistent with Article 1 of the Nuclear Non-Proliferation Treaty which says "nuclear states will not assist non-nuclear weapon states in acquiring nuclear weapons"?

Admiral BENEDICT. I defer to the Office of the Secretary of Defense to provide the answer to your questions.

Ms. SANCHEZ. United States taxpayers are expected to cover much of the modernization of the B61s through a life extension program which is to cost around $2.1 billion.

Are there any plans for NATO countries to contribute to the cost of the B61 life extension program of the B61? How much is NATO paying in FY14 for its share in terms of contribution to NATO nuclear sharing?

Are there plans to re-evaluate the number of B6s that will undergo the life-extension program? And is nuclear sharing with NATO consistent with Article 1 of the Nuclear Non-Proliferation Treaty which says "nuclear states will not assist non-nuclear weapon states in acquiring nuclear weapons"?

General HARENCAK. There are no plans for North Atlantic Treaty Organization (NATO) partner nations to contribute directly to the cost of the B61 life extension program.

Under the unique nuclear sharing arrangements in NATO, our allies participate in nuclear planning, possess nuclear-capable aircraft, and provide special facilities, certified equipment and highly trained personnel to safeguard, load, and employ U.S nuclear weapons. There are currently no plans to re-evaluate the number of B61s that will undergo the life extension program. Initial assessments indicate a very limited percentage of program savings could be achieved even if substantial numbers and capability are reduced due to the fixed and variable cost of all facets of the Life Extension Process. Life extended B61s will fulfill gravity weapon requirements for both strategic and non-strategic extended deterrence roles. The construct through which the U.S. provides extended nuclear deterrence to NATO is consistent with our obligations under the Nuclear Non-Proliferation Treaty. The arrangement directly contributes to our non-proliferation goals by reassuring non-nuclear U.S. allies and partners that their security interests can be protected without their own nuclear weapons.

Ms. SANCHEZ. United States taxpayers are expected to cover much of the modernization of the B61s through a life extension program which is to cost around $2.1 billion.

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Admiral RICHARDSON. I defer to the Office of the Secretary of Defense to provide the answer to your questions.

Ms. SANCHEZ. United States taxpayers are expected to cover much of the modernization of the B61s through a life extension program which is to cost around $2.1 billion.

Are there any plans for NATO countries to contribute to the cost of the B61 life extension program of the B61? How much is NATO paying in FY14 for its share in terms of contribution to NATO nuclear sharing?

Are there plans to re-evaluate the number of B6s that will undergo the life-extension program? And is nuclear sharing with NATO consistent with Article 1 of the Nuclear Non-Proliferation Treaty which says "nuclear states will not assist non-nuclear weapon states in acquiring nuclear weapons"?

Mr. HUIZENGA. The total program cost estimate of the B61–12 Life Extension Program as reported in the last Selected Acquisition Report dated 30 September 2013 is $7,344M with an additional $0.811M leveraged from NNSA stockpile services and campaigns.

The B61–12 is a critical component of the U.S. commitment to NATO through extended deterrence. NATO allies participate in the security alliance through sharing arrangements involving the use of facilities, aircraft and personnel but not in the direct development or production of U.S. nuclear weapons. These arrangements and planned activities to assure aircraft compatibility with the B61–12 are best explained by the Department of Defense.

During the testimony, Mr. Weber stated that the number of B61–12s is subject to change as our nuclear posture evolves and will be assessed annually. Yes, U.S. deployment of nuclear weapons on the territories of our NATO allies is consistent with Article I of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT). This article of the treaty deals only with what is prohibited, not with what is permitted. Under Article I of the Treaty, "Each nuclear-weapon State Party . . . undertakes not to transfer to any recipient whatsoever nuclear weapons or other nuclear explosive devices or control over such weapons or explosive devices directly, or indirectly; . . . ." No such transfer occurs under NATO nuclear defense planning. The issue of U.S. deployment of nuclear weapons on the territories of our NATO Allies was thoroughly considered during the negotiation of the NPT in the 1960s. This issue was of significant interest to NATO Allies and to the Senate during the NPT ratification hearings.

Ms. SANCHEZ. United States taxpayers are expected to cover much of the modernization of the B61s through a life extension program which is to cost around $2.1 billion.

Are there any plans for NATO countries to contribute to the cost of the B61 life extension program of the B61? How much is NATO paying in FY14 for its share in terms of contribution to NATO nuclear sharing?

Are there plans to re-evaluate the number of B6s that will undergo the life-extension program? And is nuclear sharing with NATO consistent with Article 1 of the Nuclear Non-Proliferation Treaty which says "nuclear states will not assist non-nuclear weapon states in acquiring nuclear weapons"?

Dr. WINOKUR. Cost information and strategic planning related to nuclear weapons programs are outside the jurisdiction of the Defense Nuclear Facilities Safety Board. (Board).

Ms. SANCHEZ. United States taxpayers are expected to cover much of the modernization of the B61s through a life extension program which is to cost around $2.1 billion.

Are there any plans for NATO countries to contribute to the cost of the B61 life extension program of the B61? How much is NATO paying in FY14 for its share in terms of contribution to NATO nuclear sharing?

Are there plans to re-evaluate the number of B6s that will undergo the life-extension program? And is nuclear sharing with NATO consistent with Article 1 of the Nuclear Non-Proliferation Treaty which says "nuclear states will not assist non-nuclear weapon states in acquiring nuclear weapons"?

Mr. HELD. a. The B61–12 is a critical component of the U.S. commitment to NATO through extended deterrence. NATO allies participate in the nuclear alliance through nuclear sharing arrangements involving the use of facilities, aircraft and personnel but not in the direct development or production of U.S. nuclear weapons. These agreements, future changes and planned activities to assure continued compatibility with the B61–12 are best explained by the Department of Defense.

There are no plans for North Atlantic Treaty Organization (NATO) partner nations to contribute directly to the cost of the B61 life extension program.

Under the unique nuclear sharing arrangements in NATO, our allies participate in nuclear planning, possess nuclear-capable aircraft, and provide special facilities, certified equipment and highly trained personnel to safeguard, load, and employ U.S. nuclear weapons.

There are currently no plans to re-evaluate the number of B61s that will undergo the life extension program. Initial assessments indicate a very limited percentage of program savings could be achieved even if substantial numbers and capability are reduced due to the fixed and variable cost of all facets of the Life Extension Process. Life extended B61s will fulfill gravity weapon requirements for both strategic and non-strategic extended deterrence roles.

The construct through which the U.S. provides extended nuclear deterrence to NATO is consistent with our obligations under the Nuclear Non-Proliferation Treaty. The arrangement directly contributes to our non-proliferation goals by reassuring non-nuclear U.S. allies and partners that their security interests can be protected without their own nuclear weapons.

b. During the testimony, Mr. Weber stated that the number of B61–12s is subject to change as our nuclear posture evolves and will be assessed annually. As stated above, the U.S. does not have a cost sharing agreement with NATO for the development or production of nuclear weapons.

QUESTIONS SUBMITTED BY MR. GARAMENDI

Mr. GARAMENDI. When was the last time of the DOD completed an assessment of the required number of B–61s required to receive the LEP? Would the DOD concur that in assessing the costs of the LEP program we should conduct a detailed analysis of the number of B–61s we retain in the future inventory?

Mr. WEBER. The 2013 Nuclear Posture Review Implementation Study reevaluated the future stockpile needs and assessed required numbers. The planned number of B61–12s is derived from that analysis. The total number required for the future inventory should be analyzed as military requirements evolve.

Mr. GARAMENDI. Are there DOD plans to re-evaluate the number of B61s that would need to undergo the planned life extension program? Do you think we will need to maintain a triad indefinitely? Who thinks about long-term requirements and next-generation threats at STRATCOM? Do we need a new nuclear cruise missile if we will also develop a new nuclear-capable, stealthy bomber? Why?

Ms. BUNN. The required number of B61–12s planned for inclusion in the life-extension program (LEP) is reviewed as part of the 6.X life cycle management process. The current quantity of weapons to be included is based upon the requirements for extended and strategic deterrence commitments contained in various plans and policy documents. Should the guidance and/or direction in these documents change, the quantity of weapons to be produced would be reevaluated and adjusted accordingly.

As stated in the 2010 Nuclear Posture Review, although the United States seeks the peace and security of a world without nuclear weapons, as long as they exist, the United States will maintain a safe, secure, and effective arsenal. The President stated last year in his new nuclear employment guidance that retaining all three Triad legs will best maintain strategic stability at reasonable cost, while hedging against potential technical problems or vulnerabilities and geopolitical uncertainty. Since we cannot predict what the future holds, the Triad will provide the next generation of U.S. policymakers with a flexible and resilient range of capabilities to provide effective deterrence.

Commander, U.S. Strategic Command's Resources (J8) and Intelligence (J2) directorates continuously review and collaborate on both requirements and threats, especially in light of on-going nuclear modernization efforts being conducted by several nuclear-capable countries.

We do need the Long-Range Stand-Off (LRSO) cruise missile, which is the Air-Launched Cruise Missile (ALCM) replacement, and the new Long Range Strike-Bomber (LRS–B) that the U.S. Air Force is developing. The stand-off capability of the LRSO is important since it will also be carried by B–52 and B–2 bombers which are less stealthy than the LRS–B's design. We want an arsenal that contributes to effective deterrence, is survivable and flexible, and provides options for the President. Having both a penetrating bomber and the stand-off capability of a cruise missile is necessary if we want an arsenal that possesses these traits, especially with the advent of regional nuclear powers whose intentions and decision processes are far from transparent and whose military capabilities are increasingly advanced.

Mr. GARAMENDI. The GAO concluded in a recent report that DOD may be significantly underreporting its 10-estimate for the modernization of nuclear delivery systems, and does not include potential estimates for Air Force efforts to either modernize the ICBMs or develop a new bomber. Will you commit to providing a comprehensive and detailed plan to the committee on what the costs will be in the next 10 years? And as most of the costs for modernization will increase beyond the next 10 years, do you have an understanding of when the costs will peak and what planning is needed over the next 20 years?

Ms. BUNN. I am committed to working with my DOD and other Nuclear Weapon's Council (NWC) counterparts to provide the most accurate and detailed estimate possible of the costs associated with the efforts to modernize the Triad over the next 10 years. The NWC baseline plan lays out a cost-effective modernization path to providing an updated Triad that meets both military and policy requirements well beyond the next 20 years. As you are aware, DOD and DOE report annually on the costs associated with the modernization plan over the subsequent 10 years in the Section 1043 report; the most recent version was delivered to Congress on May 7th, 2014.

Mr. GARAMENDI. Is DOD planning to re-evaluate the number of B61s that would have to undergo life extension? What was the analysis that determined the number of B61s required? Please provide a copy of this analysis.

Ms. BUNN. The number of B61–12 weapons to be produced through the Life-Extension Program (LEP) was evaluated by DOD and approved by the Nuclear Weapons Council (NWC) at the onset of the program. As part of the evaluation, the NWC received input and recommendations from several stakeholders and all members of the Council. The required number of bombs is continuously reviewed throughout the 6.X life cycle management process, and the current projected quantity of weapons to be refurbished is based upon the requirements for extended and strategic deterrence commitments as outlined in various plans and policy documents. Should the guidance and/or direction in these documents change, the quantity of B61–12 bombs to be produced would be adjusted accordingly.

I will work with the NWC Chair to provide you with a brief on the B61 requirements analysis process.

Mr. GARAMENDI. Are you confident NNSA can perform 4–5 concurrent life extension programs?

Ms. BUNN. At the present time, the Nuclear Weapons Council (NWC) baseline plan does not exceed two concurrent Life-Extension Programs (LEPs) at any one time. I am confident that NNSA can execute the NWC's priorities; although in the current fiscal environment it faces increased risk due to the prospect of inconsistent and unstable funding. The NWC is actively updating the baseline plan as well as evaluating NNSA's progress to ensure a stable and steady workflow for the highly talented individuals who are working on these LEP programs.

Mr. GARAMENDI. The GAO concluded in a recent report that DOD may be significantly underreporting its 10-estimate for the modernization of nuclear delivery systems, and does not include potential estimates for Air Force efforts to either modernize the ICBMs or develop a new bomber. Will you commit to providing a com-

prehensive and detailed plan to the committee on what the costs will be in the next 10 years? And as most of the costs for modernization will increase beyond the next 10 years, do you have an understanding of when the costs will peak and what planning is needed over the next 20 years?

Admiral BENEDICT. I commit to continue to support the Department of Navy's submission of nuclear deterrent modernization budget estimates in accordance with section 1043 of the National Defense Authorization Act for Fiscal Year 2012.

Mr. GARAMENDI. The GAO concluded in a recent report that DOD may be significantly underreporting its 10-estimate for the modernization of nuclear delivery systems, and does not include potential estimates for Air Force efforts to either modernize the ICBMs or develop a new bomber. Will you commit to providing a comprehensive and detailed plan to the committee on what the costs will be in the next 10 years? And as most of the costs for modernization will increase beyond the next 10 years, do you have an understanding of when the costs will peak and what planning is needed over the next 20 years?

General HARENCAK. In response to the Government Accountability Office (GAO) report, the Air Force has incorporated 10-year cost estimates for both the Long Range Strike-Bomber and Intercontinental Ballistic Missile modernization in the Fiscal Year 2015 Report on the Plan for the Nuclear Weapons Stockpile, Nuclear Weapons Complex, Nuclear Weapons Delivery Systems, and Nuclear Weapons Command and Control System, as specified in Section 1043 of the National Defense Authorization Act for Fiscal Year 2012. The Air Force will continue providing such estimates to the Congress in the future.

These estimates are based on programmed amounts reflected in the Zero Real Growth (ZRG) Program Force Extended (PFE) data contained in the annual Air Force Integrated Planning Force. These budget values reflect the 20-year balanced Air Force funding plan at the constrained funding levels required to meet current fiscal requirements. Budget figures in this plan are used as the basis for affordability goals for future modernization and sustainment efforts that have not yet become formal acquisition programs (pre-Milestone B), such as Ground Based Strategic Deterrent.

Mr. GARAMENDI. What are your top concerns with regard to providing adequate safety across the nuclear enterprise?

Dr. WINOKUR. The Board's top safety concerns with regard to providing adequate protection across the nuclear weapons enterprise are summarized below.

Earthquake Hazard at Los Alamos National Laboratory (LANL): The Board believes continued dialogue with the Department of Energy (DOE) is necessary to fully resolve issues regarding adequate protection of public health and safety in the event of an earthquake affecting the Plutonium Facility at LANL. The design basis seismic accident scenario results in unacceptably large offsite radiation dose consequences to the public. The Board's Recommendation 2009–2, *Los Alamos National Laboratory Plutonium Facility Seismic Safety,* identified the need to improve the safety posture of the facility.

Aging Infrastructure: In our recent Report to Congress: *Summary of Significant Safety-Related Aging Infrastructure Issues at Operating Defense Nuclear Facilities,* the Board identified safety- related concerns regarding aging infrastructure at DOE defense nuclear facilities. These facilities included Chemistry and Metallurgy Research (CMR) Facility at LANL, the 9212 Complex at the Y–12 National Security Complex, and the Hanford Single-Shell and Double-Shell Tanks as examples of some of the most significant safety-related aging infrastructure issues that exist today in the DOE defense nuclear complex.

Two of the most critical facilities with respect to aging infrastructure are the CMR Facility at LANL, constructed in 1952, and the 9212 Complex at the Y–12 National Security Complex that began service in 1951. DOE deferred funding for the CMR Replacement Project for 5 years, and expects to operate the existing CMR Facility through 2019. The 9212 Complex is comprised of Building 9212 and 13 collocated buildings, portions of which have been in operation for more than 60 years. The Uranium Processing Facility (UPF) is scheduled to replace the 9212 Complex, but DOE does not plan to commence operations in UPF until 2025.

Complex-wide stabilization and disposition of the remnants of nuclear weapons production activities enhances public health and safety near DOE sites. The cleanup of legacy waste at Hanford presents the most significant challenge in this regard. DOE stores more than 50 million gallons of high-level radioactive waste in 177 underground tanks at the Hanford site. Many of the old single-shell tanks have been known to leak. In addition, Hanford's double-shell tanks are aging and are expected to be in use well beyond their design life. DOE identified a slow, but continuing leak from the primary (inner) tank of double-shell tank AY-102 in August 2012. The Board has been closely following DOE's response to the leak, including DOE's eval-

uations of other tanks containing similar waste and the potential impact on the overall waste retrieval and treatment strategy.

At the Savannah River Site (SRS), operations at H-Canyon, HB-Line, Defense Waste Processing Facility, and the Saltstone Production Facility have permitted steady progress in immobilizing radioactive materials in 47 high-level waste tanks. However, factors such as budget constraints and facility aging continue to complicate the disposition of legacy waste at SRS. The Board's oversight will continue to focus on the on-going high-level waste operations and the completion of the Salt Waste Processing Facility.

Early Integration of Safety in Design: The Board believes early integration of safety in large, complex design projects and timely resolution of safety-related issues are key factors to providing adequate protection of public and worker health and safety. DOE has struggled with the early integration of safety into its large, complex design projects and the timely resolution of safety related issues.

During 2013, DOE made progress in resolving certain safety issues affecting complex design and construction projects. On other issues, however, DOE encountered problems with closure and integration of safety into the design process. DOE continued to struggle with open safety issues at the Waste Treatment and Immobilization Plant at the Hanford Site. Beginning in 2012, DOE slowed the construction of two of the plant's key facilities—Pretreatment and High-Level Waste—to resolve safety issues and to reevaluate the project's design. Many of these issues have been outstanding for years.

Activity-Level Work Planning and Control: The Board's Technical Report-37, *Integrated Safety Management at the Activity Level: Work Planning and Control,* and accompanying Board letter issued on August 28, 2012, outlined challenges in the safe performance of work at DOE's defense nuclear facilities. DOE responded by proposing new implementation and oversight guidance and is in the process of enhancing oversight of activity-level work planning and control by headquarters, field offices, and contractors. The Board's future review efforts will assess the need for additional DOE requirements to support improved work planning and control.

Criticality Safety at the Los Alamos National Laboratory: In May 2013, the Board's staff conducted a review of the criticality safety program at the Plutonium Facility at LANL. The staff review team identified several criticality safety concerns, including widespread weaknesses in conduct of operations. On June 27, 2013, the LANL Director paused programmatic operations in the Plutonium Facility, in part, to enable laboratory management to address nuclear criticality safety concerns identified by both internal and external assessments. National Nuclear Security Administration (NNSA) managers briefed the Board on a strategy to develop criticality safety evaluations (CSE) for higher-risk operations prior to resumption. The Board is aware that this plan has evolved such that the LANL Director intends to resume many higher-risk operations without first developing compliant CSEs.

DOE directives and industry consensus standards require that CSEs unambiguously demonstrate how fissionable material operations will remain subcritical under both normal and credible abnormal conditions. These CSEs identify controls to ensure safe operation. The Board requested a briefing by NNSA on how federal and contractor managers will ensure that adequate controls are identified as the contractor resumes higher-risk operations in the Plutonium Facility.

Emergency Preparedness and Response: Emergency preparedness and response is a key component of the safety bases for defense nuclear facilities. It is the last line of defense to prevent public and worker exposure to hazardous materials. The Board believes that the requirements in DOE's Directives that establish the basis for emergency preparedness and response at DOE defense nuclear facilities, as well as the current implementation of these Directives, must be strengthened to ensure the continued protection of workers and the public.

Problems with emergency preparedness and response have been discussed at Board public hearings and meetings during the past three years, as well as in the weekly reports of the Board's site representatives. On March 21, 2014, and March 28, 2014, the Board transmitted letters to the Secretary of Energy conveying its concerns regarding the emergency responses at the Waste Isolation Pilot Plant in Carlsbad, New Mexico, to the truck fire and radioactive material release events. These ineffective responses and the consequences of the accidents demonstrate the importance of a strong emergency preparedness and response program. The topic of emergency preparedness and response at all defense nuclear facilities will continue to be a top priority for the Board.

Mr. GARAMENDI. What will the increased funding over last year's appropriations fund?

Dr. WINOKUR. The additional $2.1M over the Fiscal Year (FY) 2014 appropriation of $28M will fund nine additional full-time employees (FTE) and an assumed 1% civilian pay raise.

Excluding additional workload requirements levied by the National Defense Authorization Act (NDAA) for FY 2013, the Board requires 120 FTEs to meet the scope of its oversight responsibilities. Both the FY 2012 and FY 2013 (apart from the impact of sequestration) enacted appropriations provided funding for 120 FTEs. The President's Budget for FY 2014 requested $29.9M to fund 120 FTEs; $28M funds approximately 116 FTEs. An additional 1$1.1M is needed to fund the assumed 1% civilian pay raise and four additional FTEs to reach the required 120 FTE level.

An additional $1M is needed to fund five (5) additional FTEs (for a total of 125) to address additional workload requirements levied by the NDAA for FY 2013. The NDAA included several new provisions that increase staff workload. The Board's staff must now support formal risk assessments by the Board for new recommendations to the Secretary of Energy. The recommendation process was also modified to require the production of a draft recommendation and an opportunity for the Secretary of Energy to comment before the recommendation is made final. Additional staff workload is anticipated in the analysis of and response to Secretarial comments. Finally, the NDAA for FY 2013 required that the Board enter into an agreement with an agency of the Federal government having expertise in the Board's mission to procure the services of the Inspector General (IG) of such agency in accordance with the Inspector General Act of 1978. Subsequently, the Consolidated Appropriations Act for FY 2014 assigned the IG of the Nuclear Regulatory Commission (NRC) to also serve as the Board's IG, and directly appropriated $850,000 to the NRC Office of the Inspector General (NRC–OIG) for that effort. The NRC is proposing to dedicate five full-time employees (to be located at the Board's headquarters) to perform IG services for the Board. Having a dedicated, on-site staff of five employees from the NRC–OIG performing IG services will generate significant additional workload for the Board. Without additional FTEs, the Board will have to absorb that workload to address IG concerns within its existing FTEs. Consequently, the FTEs directly performing the Board's safety oversight mission will decrease.

Traditional high-risk administrative areas that the NRC–OIG is likely to focus on include purchase and travel cards, time and attendance procedures, property accountability, and control of classified information. The NRC–OIG has also preliminarily indicated a potential focus on the following technical performance areas: processes for safety oversight, construction oversight, oversight of decommissioning, public meetings, oversight of controls to prevent inadvertent criticality, and oversight of fire protection. Communicating and coordinating with the IG staff, responding to requests for data, explaining and documenting work processes, reviewing draft reports, etc., will significantly increase workload in both the Board's administrative and direct mission areas.

To address these additional FY 2015 workload requirements, the Board requires additional staffing of five FTEs in the following areas:

- A senior-level employee to serve as the Board's sole interface with the NRC–OIG staff. Duties would include receiving and reviewing requests for data from the IG staff to support audits and other reviews, coordinating meetings, communicating data requests to appropriate staff for response, reviewing responses provided to the IG staff, maintaining a tracking log of pending and completed data requests, etc.
- Two mid-level employees in administrative areas to support the additional workload generated from administrative audits and reviews.
- Two mid-level engineers or technical specialists to support the additional workload generated by formal risk assessments and Secretarial comments on draft recommendations, as well as the additional workload generated from technical performance audits and reviews.

Mr. GARAMENDI. Are you confident safety is a top priority for NNSA and the Department of Energy?

Dr. WINOKUR. A focus on safety is essential in any nuclear enterprise, and the standard for safety in a nuclear enterprise must be much higher than that of a typical industrial activity. The Board recognizes that safety is an integral part of the Rules and Directives that govern the work of DOE and NNSA personnel at all DOE defense nuclear facilities. The Board also recognizes that many DOE and NNSA managers embrace the importance of nuclear safety as essential to the protection of the workers and the public, and to the mission itself.

However, at times, some in DOE and NNSA may lose focus on the importance of safety, or may allow mission and schedule pressures to trump safety. This balance between mission and safety can be challenging for managers who must decide

where to allocate scarce resources. Furthermore, managers may have difficulty measuring safety; an absence of accidents may be interpreted as an indication that safety programs are no longer needed, leading managers to reduce the staffing levels of safety personnel. The safety violations and accidents that result are the types of situations that led Congress to create the Board more than 25 years ago. Today and going forward, the Board believes its mission is still essential to safeguard against these situations where DOE or NNSA managers lose focus on safety due to competing priorities.

The Board will be conducting two hearings this year to address safety culture at DOE defense nuclear facilities and the Board's Recommendation 2011–1, Safety Culture at the Waste Treatment and Immobilization Plant. At these hearings, the Board will explore how DOE balances mission and safety and whether safety is an "overriding" priority.

Mr. GARAMENDI. Please provide more details on possible MOX alternatives that NNSA is considering with regards to the disposition of the current nuclear stockpile.

Mr. HELD. On April 29, 2014 the Department released its "Analysis of Surplus Weapon-Grade Plutonium Disposition Options". Attached is a chart from page 35 of this report which summarized the options. Additional detail on each option can be found in the report which is also posted here:

http://nnsa.energy.gov/sites/default/files/nnsa/04-14-inlinefiles/SurplusPuDispositionOptions.pdf

[The chart referred to can be found in the Appendix on page 156.]

Mr. GARAMENDI. Can we achieve a 30 or potentially 50-pit production capacity with existing facilities? Did NNSA consider using existing facilities across the nuclear enterprise to contribute to the pit analysis and production capacity at Los Alamos? And is NNSA an analysis of alternatives before planning and designing potential new modular facilities at Los Alamos National Laboratories?

What are your priorities for the plutonium strategy?

Mr. HELD. The priorities for the plutonium strategy are to:

1. Achieve 30 pits per year in 2026 through Plutonium Sustainment program investments and investments to optimize the use of existing infrastructure at LANL (i.e., the Radiological Laboratory/Utility/Office Building (RLUOB) and PF–4) for analytical chemistry (AC) and materials characterization (MC).

2. Cease programmatic operations in CMR by 2019. This effort is supported by the investments needed to optimize use of the RLUOB and reuse laboratory space in PF–4. The NNSA believes that investments in existing infrastructure will support 30 pits per year production; as demand increases beyond 30 pits per year, additional space will likely be needed. After deferral of the CMRR-Nuclear Facility, NF, an analysis of options to use existing infrastructure for plutonium support capabilities was performed. Results of this analysis indicated that AC and MC capability needs could be met by optimizing existing infrastructure at Los Alamos National Laboratory.

The proposed modular approach provides additional space and extends the lifetime of PF 4. This proposal is in its pre-conceptual phase; an appropriate alternatives analysis will be performed consistent with DOE Order 413.3B as the project develops.

Mr. GARAMENDI. Do the pits and secondaries we hold in reserve serve as part of the hedge for our nuclear deterrent?

Mr. HELD. No. As described in the report submitted to Congress in June of 2013, titled Report on Nuclear Employment Strategy of the United States Specified in Section 491 of 10 USC, the hedge currently consists of only fully assembled nuclear warheads.

Mr. GARAMENDI. Can you guarantee that NNSA can successfully perform 4–5 life extensions concurrently, as was planned in FY14? How many concurrent LEPs does the FY15 plan envision?

Mr. HELD. There are many conditions that are required to successfully execute multiple life extensions concurrently. There must be sufficient funding, work force balancing, adequate capacity, and the absence of significant technical surprises. What I can guarantee is that NNSA will do everything possible to ensure success, given the requisite resources. The plan described in the FY 2015 Stockpile Stewardship and Management Plan has a maximum of five life extension programs running concurrently in FY 2023–2025, but they are different types of efforts (e.g., development, production) requiring different teams.

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